1559

Water Plant Optimization Study

# BELLE RIVER WATER TREATMENT PLANT

May 1991

Ontario
Environment
Environnement

ISBN 0-7729-3313-8

# WATER PLANT OPTIMIZATION STUDY

**Belle River**

**Water Treatment Plant**

Project No. 7-2030

May 1991

PRINTED ON RECYCLED PAPER
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PIBS 1559
log 89-2302-154

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Please note that some of the recommendations contained in this report may have already been completed at time of publication. For more information, please contact the local municipality, or the Water Resources Branch of the Ministry of the Environment.

## SUMMARY OF FINDINGS AND RECOMMENDATIONS

The purpose of the Water Plant Optimization Study is to prepare a document that describes the present condition of a water plant with respect to equipment and operation as well as information regarding the quantity and quality of raw and finished water. The report attempts to make recommendations that will allow the plant to operate in an optimum condition so that the best possible finished water quality is achieved with emphasis on particulate removal and disinfection. The approach is to optimize the existing facilities and make recommendations for short term and long term improvements. It is anticipated that the optimization study documents will be updated on a regular basis.

The data indicates that particulate removal at the Belle River Water Treatment Plant is very good, especially in the period March - December 1986. The plant is not manned continuously and it would be difficult to assess the effectiveness of trial runs of alternate chemicals and/or process modifications that could be carried out to improve treatment effectiveness.

In order to make effective use of the plant operators' limited time at the plant, and to obtain more accurate operating data the following improvements studies are recommended.

**Physical Improvements**

- Install a continuous flow-through turbidimeter to monitor clarifier effluent turbidity and connect the output signal to an alarm system.

- Continuous streams of raw water, clarifier effluent and combined filter effluent could be fed to display jars in the lab/ office area to facilitate obtaining test samples.

- Install continuous flow-through turbidimeters for raw water, clarifier effluent, individual filter effluent and plant effluent.

- Increase flow velocity in plant effluent sample line.

- All flowmeters should be recalibrated, refurbished if necessary and the changes documented.

- Repair the treated water flow totalizer on the main control panel.

- Replace the deteriorated screen in the screen well for intake No. 1.

- Calibration chambers should be installed on all chemical feed pumps.

- Install a flow measuring device on the backwash water supply.

- The capacity of the stand-by chlorinator should be increased to match the capacity of the pre and post-chlorinators.

- Provide means to measure the amounts of chlorine used for pre and post-chlorination separately.

- Provide the means to more evenly distribute the pre-chlorine to the filters.

- Replace the chlorine residual analyzer with an instrument of greater sensitivity and precision.

**Studies**

- Conduct a study to determine possible remedial actions to address frazil ice conditions.

- Conduct a study to determine if residual aluminium can be used as an operational parameter.

- Determine whether or not a streaming current meter would be beneficial for coagulant dosage control.

- Determine if the use of a sludge level detector will lead to a better understanding of clarifier operation.

- Study methods of improving clarifier performance under high turbidity conditions.

- Conduct sieve analyses and a filter media inspection annually.

**Other Recommendations**

- The plant should be run on a steady-state basis to prevent process upset.

- Record keeping should be PC-based.

- When staff are replaced, preference should be given to someone with electrical experience.

- Develop a sampling program to facilitate compliance with the Ontario Drinking Water Objectives.

- The Belle River Plant should be included in DWSP.

- Calibrate the filter headloss recorder regularly.

WATER PLANT OPTIMIZATION STUDY

BELLE RIVER AREA WATER TREATMENT PLANT

ONTARIO MINISTRY OF THE ENVIRONMENT

PROJECT NO. 7-2030

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# WATER PLANT OPTIMIZATION STUDY

## BELLE RIVER AREA WATER TREATMENT PLANT

## ONTARIO MINISTRY OF THE ENVIRONMENT

## PROJECT NO. 7-2030

## INTRODUCTION AND TERMS OF REFERENCE

The purpose of the Water Plant Optimization Study (WPOS) is to document and review the present conditions and determine an optimum treatment strategy for contaminant removal at the plant, with emphasis on the removal of particulate materials and the disinfection processes.

In striving for excellence in water treatment, it is important to examine all possible approaches, but first, optimum use should be made of the processes already in place.

This optimization study is a beginning and not an end to itself; it is the start of an ongoing documentation of the operation of the plant. It is recommended that this document be updated on an annual basis.

The Ontario Ministry of the Environment has instituted a Drinking Water Surveillance Program (D.W.S.P.) consisting of a continuously updated base of information on Ontario water treatment plants and water quality. In connection with the D.W.S.P., a specific plant investigation and process evaluation study is required for each plant entering the program. The study has been prepared in accordance with a detailed protocol prepared by the Ministry of the Environment.

The Belle River Area Water Treatment Plant provides the water supply for the Town of Belle River and parts of the Townships of Maidstone and Rochester. Serviced populations are as follows:

| | | |
|---|---|---|
| Town of Belle River | - | 3,840 |
| Township of Maidstone | - | 4,710 |
| Township of Rochester | - | 2,820 |

The Optimization Study is based on plant operating data for the years 1984, 1985 and 1986. It should be noted that all information in the report with respect to equipment and operating procedures relates to the study period.

## SECTION A
## RAW WATER

### A.1 Source

The source of raw water for the Belle River Water Treatment Plant is Lake St. Clair. The plant is on the south shore of the lake and water is drawn through two intakes extending approximately 565 m (1,850 ft) from shore. The inlet structures at the ends of the intake pipes take water from 1.85 m (6 ft) below mean lake level, approximately 1 m (3.3 ft) above lake bottom.

The location of the plant is shown on Figure 1.

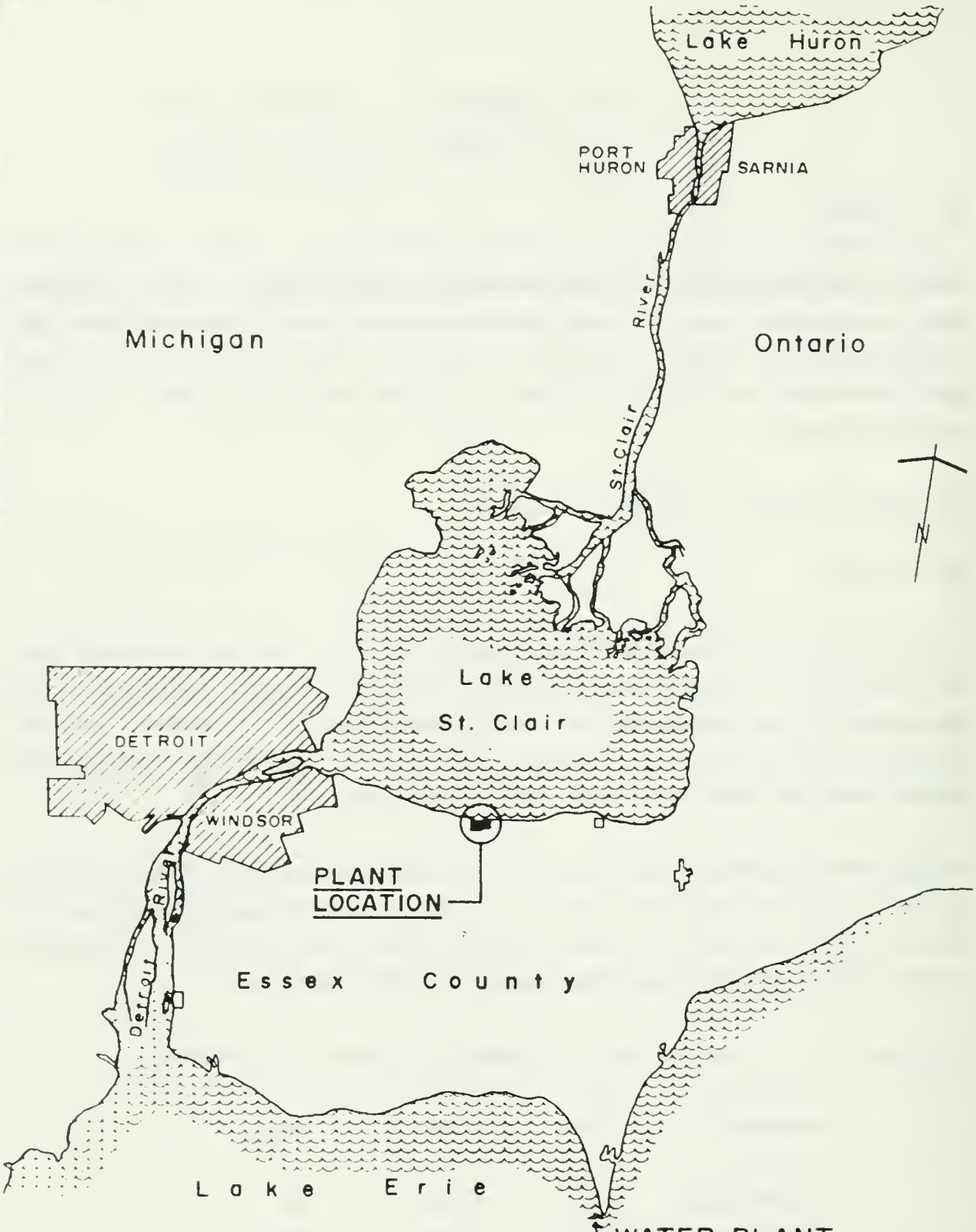
### A.2 Quality

Raw water quality is affected by silt-laden runoff discharged to the lake by the Belle River and Duck Creek. The Belle River discharges to the lake approximately 0.4 km west (downstream) of the intakes and Duck Creek approximately 1.4 km upstream. Lake St. Clair is very shallow and wave action from winds from the West to East through North disturbs bottom sediments which can increase turbidity dramatically.

The Belle River/Maidstone Water Pollution Control Plant outfall is approximately 2.3 km west (downstream) of the water plant intakes. The nearest upstream sewage works outfall is approximately 17 km east of the plant where the seasonal discharge from the Township of Tilbury North oxidation ponds enters Lake St. Clair from Little Creek.

Throughout the study period, raw water physical parameters varied as follows:

| Parameter | Min. | Max. | Avg. |
|---|---|---|---|
| Turbidity (FTU) | 0.10 | 650 | 48 |
| Colour (Hazen U) | < 1 | 71 | 14 |
| pH | 6.5 | 8.2 | 7.83 |




WATER PLANT
OPTIMIZATION STUDY
OME Project N° 7-2030

BELLE RIVER
WATER TREATMENT PLANT

LOCATION MAP

0 10 20
SCALE - KILOMETRES

LA FONTAINE, COWIE, BURATTO & ASSOCIATES LIMITED
CONSULTING ENGINEERS

Date 1988·01·19
File N° WR 158 B

Figure N°1

Despite being downstream of the St. Clair and Thames Rivers which potentially discharge pollutants from industrial, domestic and agricultural developments along their shores and tributaries, contamination of raw water at the Belle River Water Treatment Plant from these sources has not been a significant problem.

Bacteriological testing of raw water yielded the following results for the study period.

| **Parameter** | **% of Samples** |
|---|---|
| **Total Coliforms** | |
| 1-100/100 mL | 59 |
| 101-5000/100 mL | 39 |
| > 5000/100 mL | 2 |
| **Fecal Coliforms** | |
| 0-10/100 mL | 42 |
| 11-500/100 mL | 55 |
| > 500/100 mL | 3 |
| **Fecal Streptococcus** | |
| 0-1/100 mL | 27 |
| 2-50/100 mL | 45 |
| > 50/100 mL | 28 |

## SECTION B
## FLOW MEASUREMENT

### B.1 Raw Water Flow Measurement

Raw water flow is measured by a 400 mm (16 in) venturi tube in the low lift pump discharge header. The differential pressure created by the Venturi is sensed by a pneumatic differential pressure transmitter which transmits a 21 - 103 kPa (3 - 15 psi) air signal to a circular chart recorder/totalizer on the main control panel.

### B.2 Treated Water Flow Measurement

Treated water is measured by a 400 mm (16 in) diameter Sparling Propeller Meter with flow totalized on the meter head. A pulse signal is transmitted to a circular chart flow recorder/totalizer on the main control panel.

### B.3 Backwash Water Flow Measurement

There is no flow meter on the main backwash water supply piping, however the level of the water in the backwash tank is monitored on the main control panel during backwash.

### B.4 Filter Flow Measurement

Flow through each filter is measured by a 300 mm (12 in) diameter venturi tube using a pneumatic control system to record and totalize the flow on the main control panel.

### B.5 Validity of Flow Measurement

The flow measuring systems have not been calibrated since they were installed in 1974. A comparison of the sum of the filter flows and raw water flow indicates close agreement and there do not appear to be any gross errors in the flow measuring systems.

Daily treated water flows are taken from the reading on the meter head since the totalizer on the main control panel does not operate properly.

## SECTION C
## PROCESS COMPONENTS

### C.1 General

The plant components include the two intakes, coarse and fine raw water screens, low lift pumps, solids contact upflow clarifier, dual media filters, underground storage and high lift pumps (Figure 2). The plant has chemical facilities for coagulation, disinfection, fluoridation and taste and odour control.

The original Belle River waterworks (pressure filter system) was constructed circa 1926 and in 1945 a new water treatment plant was constructed which included flash mixing, coagulation, flocculation, settling and rapid sand filtration. In 1964 a new intake, low lift pump well, low lift pumps and garage/workshop area were constructed.

In 1974 the following work was undertaken at the plant.

- New low lift pump added.
- Flash mixing and flocculation basins abandoned and Elmco solids contact upflow internals installed in existing sedimentation basin.
- Existing Aloxite filter underdrains removed and replaced with strainer nozzles, new sand/anthracite media and facilities for air scour backwash installed.
- New high lift pumping wing constructed with new pumps and standby diesel generator.
- Treated water storage reservoir constructed on plant site.
- New control system.
- New chemical feed systems.
- General refurbishing of plant.

In 1981 a reinforced concrete wall was constructed around the exterior portion of the settling tank wall which showed signs of serious concrete deterioration.

Treatment flow rates are selected manually and the high lift pumps operate automatically based on water levels in the elevated water storage tank.

# BELLE RIVER WATER TREATMENT PLANT

## BLOCK DIAGRAM

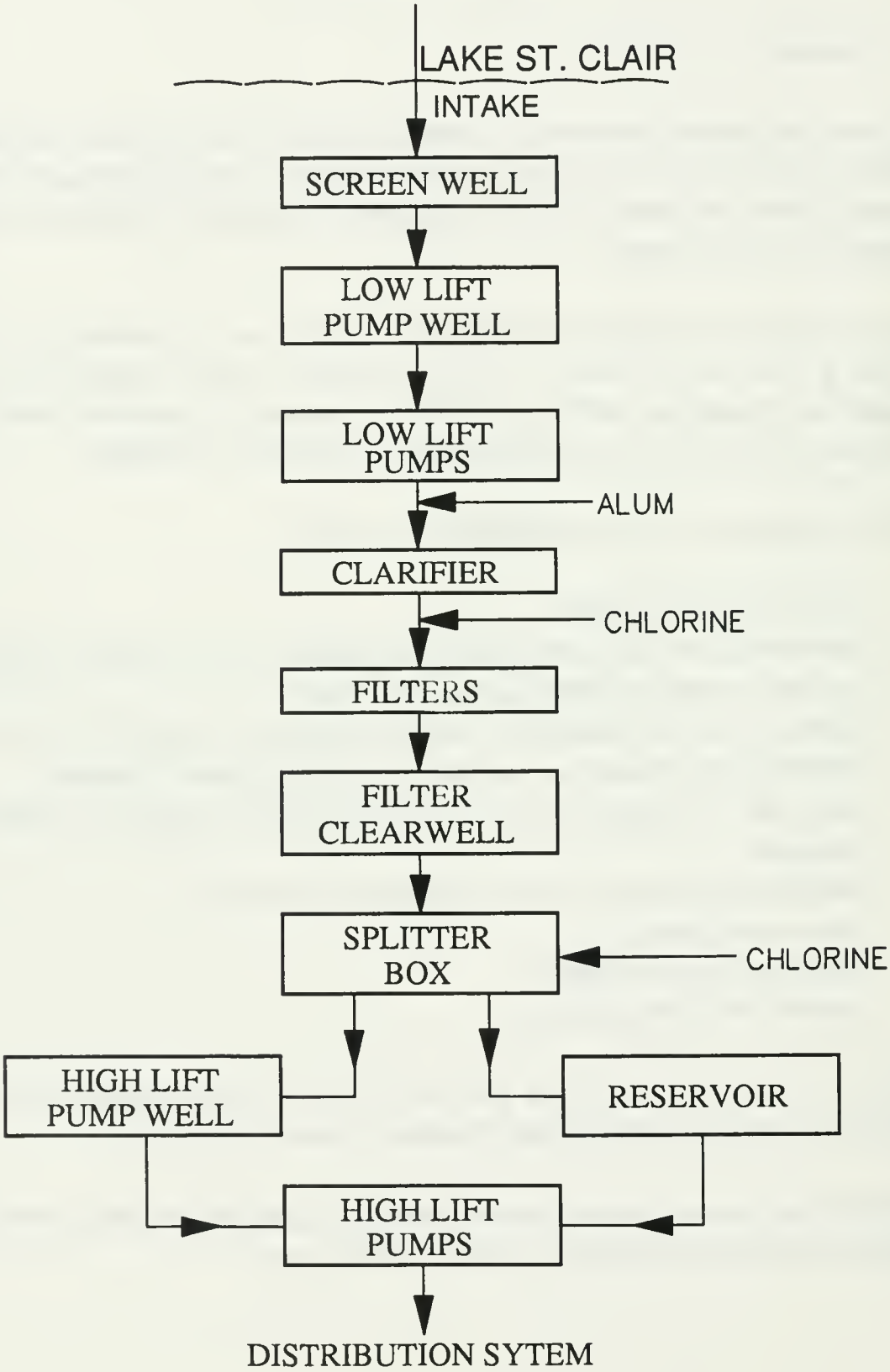



Figure № 2.

Figure No. 3 is a site plan of the plant and the basic plant components are shown on Figure No. 4 (see Appendix A).

## C.2 Design Data

### a) Plant Capacity

In the 1974 plant expansion, pumping and filtration facilities were installed for a nominal capacity of 18.2 ML/d (4 mgd). Clarification capacity was increased to 11.45 ML/d (2.5 mgd) by installing solids contact upflow internals in the existing sedimentation tank. Consideration was given to installing tube settlers which would have provided 18.2 ML/d (4 mgd) clarification capacity. It was decided, however, not to proceed with installing the tube settlers at that time. Average daily flows are 4.9 ML/d (1.1 mgd) during the winter and 8.2 ML/d (1.8 mgd) during the summer. Minimum, maximum and average daily flows during the study period were 3.95 ML/d (0.9 mgd), 13.67 ML/d (3 mgd) and 5.97 ML/d (1.3 mgd) respectively.

## C.3 Process Component Inventory

### a) Intakes

The plant has two intakes, both having intake structures approximately 565 m (1,850 ft) from shore.

**Intake No. 1** - It is believed this intake was constructed in 1926. The intake and inlet structure were inspected in 1978 and the following descriptions are based on the inspection report.

The inlet has an outer circular steel shell 1.42 m (4.67 ft) diameter x 0.9 m (3 ft) high. Inside the outer steel shell is a steel bellmouth 900 mm (36 in) dia. x 400 mm (16 in) dia. connected to the 400 mm (16 in) dia. steel intake pipe. The inlet structure is surrounded by rock fill and the 900 mm (36 in) dia. horizontal bellmouth inlet is not covered. The top of the bellmouth is approximately 1.4 m (4.5 ft) below mean lake level. The 1978 inspection

report indicates the structure is tilted but otherwise in good condition. The 400 mm (16 in) diameter intake pipe is steel with flanged joints and is 565 m (1,850 ft) long. The pipe is exposed for its entire length. At low water level in the low lift pump well and at mean lake level, the theoretical capacity of the intake is 9.8 ML/d (2.16 mgd).

**Intake No. 2** - The intake system was constructed in 1964. The water inlet structure is a rock-filled timber crib 2.9 m (9.5 ft) x 2.9 m (9.5 ft) x 2.72 m (9 ft) high with a concrete slab cover. Water is drawn through the 300 mm (12 in) high opening around the perimeter of the crib between the bottom of the concrete cover and the top of uppermost timber. The centre of the opening is approximately 1 m (3.3 ft) above lake bottom and 1.4 m (4.5 ft) below mean lake level. Inside the crib is a 1,500 mm (60 in) dia. x 900 mm (36 in) steel bellmouth which is connected to the 900 mm (36 in) diameter intake pipe.

The intake pipe is 900 mm (36 in) diameter asbestos bonded asphalt coated corrugated steel pipe 565 m (1,850 ft) long. The intake pipe is buried below the lake bottom.

At a low water level in the low lift pump well and mean lake level the capacity of the intake is 57 ML/d (12.5 mgd).

**b) Screening**

Water from the 400 mm (16 in) diameter intake passes through a 600 mm (24 in) x 900 mm (36 in) screen which is deteriorated and will be replaced with a new screen with 9.5 mm (0.375 in) mesh.

Water from the 900 mm (36 in) diameter intake passes through a coarse bar screen 1.07 m (3.5 ft) wide x 4.14 m (13.5 ft) high with vertical bars spaced at 100 mm (4 in). Following coarse screening, raw water passes through a 1.07 m (3.5 ft) wide x 4.14 m (13.5 ft) high screen with 9.5 mm (0.375 in) mesh.

The screens are removed manually for cleaning and the screenings are disposed of on land at the water plant site.

**c) Low Lift Pumping**

The 400 mm (16 in) diameter intake discharges to a low lift well which formerly served as the suction source for horizontal centrifugal pumps.

The new pump well is 5.79 m (19 ft) x 6.32 m (20.75 ft) x 4.14 m (13.5 ft) deep (including the screen chambers and space for future installation of a travelling water screen). Storage volume at mean lake level is 148 $m^3$ (32,600 gal) which includes 36 $m^3$ (8,000 gal) in the old well.

The low lift pumping system is comprised of 2 vertical turbine pumps having the following characteristics:

LL-1: Johnston 13.1 ML/d (2.9 mgd) at 9.15 m (30 ft)
with 18.65 kW (25 HP) electric motor and V.S. drive

LL-2: Worthington 13.1 ML/d (2.9 mgd) at 9.15 m (30 ft)
with 22.4 kW (30 HP) electric motor/gasoline engine.

The pumps discharge into a common header and the raw water flows through approximately 12 m (40 ft) of 400 mm (16 in) diameter pipe to the clarifier inlet chamber.

**d) e) f) Flash Mixing, Flocculation, Settling**

Clarification occurs in a 15 m (49 ft) diameter by 4.83 m (15.83 ft) side water depth tank in which Eimco solids contact upflow clarification internals were installed in 1974. Prior to 1974 the tank was a simple settling basin with bottom scraper. The clarifier is indoors and has radial surface collection launders (with orifices) discharging to a peripheral channel. The channel discharges to the 400 mm (16 in) dia. filter inlet pipe. Bottom scrapers move

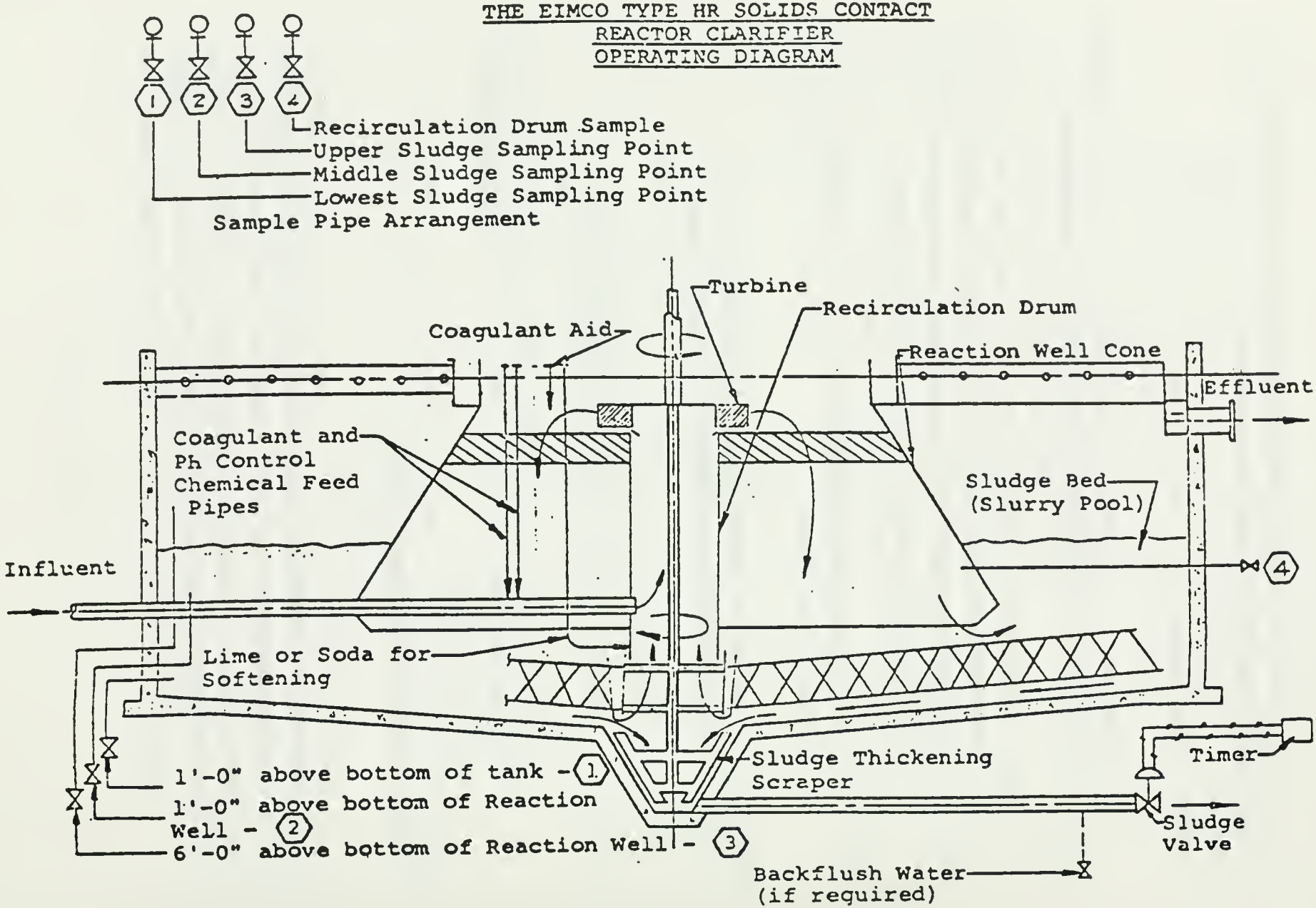

THE EIMCO TYPE HR SOLIDS CONTACT
REACTOR CLARIFIER
OPERATING DIAGRAM
1
2
3
4
Recirculation Drum Sample
Upper Sludge Sampling Point
Middle Sludge Sampling Point
Lowest Sludge Sampling Point
Sample Pipe Arrangement
Turbine
Recirculation Drum
Coagulant Aid
Reaction Well Cone
Effluent
Coagulant and
Ph Control
Chemical Feed
Pipes
Sludge Bed
(Slurry Pool)
Influent
Lime or Soda for
Softening
Sludge Thickening
Scraper
Timer
1'-0" above bottom of tank - 1
1'-0" above bottom of Reaction
Well - 2
6'-0" above bottom of Reaction Well - 3
Sludge
Valve
Backflush Water
(if required)

Figure N° 5

settled sludge to a central hopper from which it is discharged through the backwash wastewater drain to Lake St. Clair.

Based on the Ministry of the Environment treatment rate guideline of 3.0 m/h (1.02 gpm/sq ft) the clarifier has a capacity of 11.45 ML/d (2.5 mgd). The Town of Belle River has contracted for installation of tube settlers in the clarifier and based on the Ministry of the Environment treatment rate for clarifiers with tube settlers, the capacity will be 18.2 ML/d (4 mgd).

The total volume of the clarifier is 892 $m^3$ (196,000 gal) which gives a retention time of 113 min. at 11.45 ML/d (2.5 mgd).

**g) Filters**

The plant has three dual media filters having the following characteristics:

Number of filters: 3

Dimensions: 5.03 m x 5.18 m x 3.05 m deep (16.5 ft x 17 ft x 10 ft)

Distance from top of filter box to:

| | |
|---|---|
| Water level: | 0.48 m (1.57 ft) |
| Top of W.W. trough: | 0.74 m (2.42 ft) |
| Top of anthracite: | 1.91 m (6.25 ft) |
| Top of sand: | 2.37 m (7.78 ft) |
| Top of underdrain: | 2.67 m (8.76 ft) |

Depth of water over media: 1.42 m (4.66 ft)

Capacity Each: 6.19 ML/d @ 9.9 m/h (design) (1.33 mgd @ 3.3 gpm/sq ft)
7.51 ML/d @ 12 m/h (MOE guideline) (1.65 mgd @ 4 gpm/sq ft)

Underdrains: Elmco Flexkleen stainless steel nozzles (600 per filter) in 60 mm (2.5 in) thick concrete slab.

Silica Sand: 300 mm (12 in) depth, E.S.= 0.45 mm

Anthracite: 460 mm (18 in) depth, E.S.= 0.95 mm, U.C.= 1.4

Influent turbidity (FTU): 2.54 Avg.

Effluent turbidity (FTU): 0.08 Avg.

Average length of run: 72 hr.

| | |
|---|---|
| Headloss: | 0.05 m (0.2 ft) clean bed |
| | 0.61 m (2 ft) dirty bed |
| Filter Flow Rate: | 3.15 to 8.4 m/h (1.07 to 2.86 gpm/sq ft) |
| Backwash Flow Rate: | |
| Water Filtered/cycle: | 385 $m^3/m^2$ (7,900 gal/sq ft) (average) |
| Backwash Water Use: | 11.7 $m^3/m^2$/wash (240 gal/sq ft/wash) |
| Retention time: | 18.5 min @ 9.9 m/h (3.38 gpm/sq ft) (design) - not taking media porosity into account. |
| Backwash Water System: | Gravity flow from 305 $m^3$ (67,000 gal) elevated treated water storage tank |
| Auxiliary Scour (Air) Blower: | 65 $m^3/m^2$/h (3.56 cfm/sq ft) @ 28 kPa (4 psi) |

**h) Storage and High Lift Pumping**

**i) Filter Clearwell**

Filter effluent discharges to the filter clearwell located under the filters. The filter clearwell is 16 m x 11.1 m x 2.8 m (52.5 ft x 36.5 ft x 9.2 ft) maximum water depth, and has a storage volume of 498 $m^3$ (110,000 gal).

**ii) Underground Reservoir**

Water flows from the filter clearwell into an underground reinforced concrete storage reservoir 25.7 m x 23 m x 5.44 m (84.33 ft x 75.5 ft x 17.83 ft) maximum water depth having a storage capacity of 3,218 $m^3$ (0.71 mil gal).

Reservoir effluent flows to the high lift pump well which is comprised of two compartments. Storage volume in the two compartments is 86 $m^3$ (19,000 gal).

#### iii) High Lift Pumps

The high lift pumping system consists of three Johnston vertical turbine pumps as follows:

HL-1: 13.1 ML/d (2.88 mgd) at 46.3 m (152 ft) - 93.25 kW (125 HP) electric motor
HL-2: 13.1 ML/d (2.88 mgd) at 46.3 m (152 ft) - 93.25 kW (125 HP) electric motor
HL-3: 26.2 ML/d (5.76 mgd) at 61.28 m (201 ft) - 223.8 kW (300 HP) electric motor

### l) Backwash Treatment and Sludge Disposal

Filter backwash waste water and clarifier sludge drain to Lake St. Clair without treatment.

## C.4 Chemical Systems

### a) Disinfection

Chlorine is used as a disinfectant. The chlorination system utilizes 68 kg (150 lb) cylinders of liquid chlorine and gas chlorinators. The plant stores approximately 15 chlorine cylinders in the chlorine room, 4 or 5 which are on the scale and connected to the chlorine manifold. The chlorine supplier visits the plant once per month to replace empty cylinders with full ones.

#### l) Pre-Chlorination

Pre-chlorination chlorine solution is added to the clarifier effluent. The pre-chlorinator is a Wallace and Tiernan Series V800, 227 kg/d (500 lb/d) gas chlorinator, having a 0-45.5 kg/d (0-100 lb/d) rotameter. The rotameter will allow a maximum dosage of 4 mg/L at 11.45 ML/d (2.5 mgd).

The distribution of chlorine solution to the three filters is uneven. No. 1 filter receives less chlorine than the others.

ii) **Post-Chlorination**

Post-chlorination chlorine solution is added to the inflow to the high lift pump well at the splitter box. The post-chlorinator is a Wallace and Tiernan Series V800, 227 kg/d (500 lb/d) gas chlorinator with 0-13.6 kg/d (0-30 lb/d) rotameter. The rotameter will allow a maximum dosage of 1.2 mg/L at 11.45 ML/d (2.5 mgd).

iii) **Stand-by Chlorinator**

The stand-by chlorinator can be used for either pre or post-chlorination and is a Wallace and Tiernan Series A-741 chlorinator with a 0-9.1 kg/d (20 lb/d) rotameter.

b) **Coagulant**

Liquid alum is used as a coagulant and is injected into the low lift pump discharge header just downstream from the pumps. The alum storage and feed system is comprised of the following:

One-27 $m^3$ (6,000 gal) P.V.C. lined reinforced concrete tank (formerly part of flocculation tank).

Two Wallace and Tiernan Model A-747 diaphragm metering pumps having a maximum capacity of 1.32 L/min (17.4 gal/hr) each.

The maximum possible dosage of alum with both pumps in operation is 216 mg/L at a treatment rate of 11.45 ML/d (2.5 mgd).

### c) Coagulant Aid

During the study period activated silica (activation with sodium bicarbonate) was used as a coagulant aid. The storage, mixing and feed systems were temporary.

Use of activated silica was discontinued in 1987.

### d) Other

The plant has two systems for feeding dry chemicals. They were originally intended to feed powdered activated carbon and lime. The systems are not used.

**The Activated Carbon System** is comprised of:

- Bag unloading station with dust collector
- 1.05 $m^3$ (37 cu ft) storage hopper
- Volumetric screw feeder (Wallace & Tiernan Model A-728)
- Flushing cones for wetting the carbon
- Ejector
- Max. feed rate 1.9 $m^3$/d (67 cu ft/d)

**The Lime System** is comprised of:

- Bag unloading station with dust collector
- 1.05 $m^3$ (37 cu ft) storage hopper
- Volumetric screw feeder (Wallace & Tiernan Model A-728)
- 0.23 $m^3$ (50 gal) mixing tank
- Moyno progressing cavity feed pump
- Max. feed rate 1.9 $m^3$/d (67 cu ft/d)

## C.5 Sampling

Samples are obtained for testing raw water, clarifier effluent, filter effluent from each filter and plant effluent. Except for plant effluent, samples are taken very close to the source and residence time in sample tubing (where used) is minimal.

Plant effluent sample is taken from a continuously running cold water tap in the laboratory sink. The cold water line is connected to the plant service water piping system and if service water is not being used elsewhere, it could take a sample two hours to reach the laboratory sink tap from the point where the service water system connects to the high lift pump discharge header.

### C.6 Process Automation

The 1974 plant modification project included pneumatic/electric control systems for automatic operation as follows:

**Raw Water Flow:** Automatic regulation of the variable speed drive on LL-1 to maintain a preset water level in the filters.

**Filter Flow:** Automatic regulation of filter flow in inverse proportion to the water level in the reservoir and automatic constant rate filtering.

**Clarifier Sludge Blowdown:** Automatic blowdown based on flow volume.

**Chemical Feed:** Automatic regulation of chemical feed rate in proportion to flow with manual dosage adjustment.

**Plant Discharge:** Automatic operation of High Lift Pumps from elevated water storage tank level.

**Miscellaneous:** Push button operation of motors and valves from central control panel.

### C.7 Standby

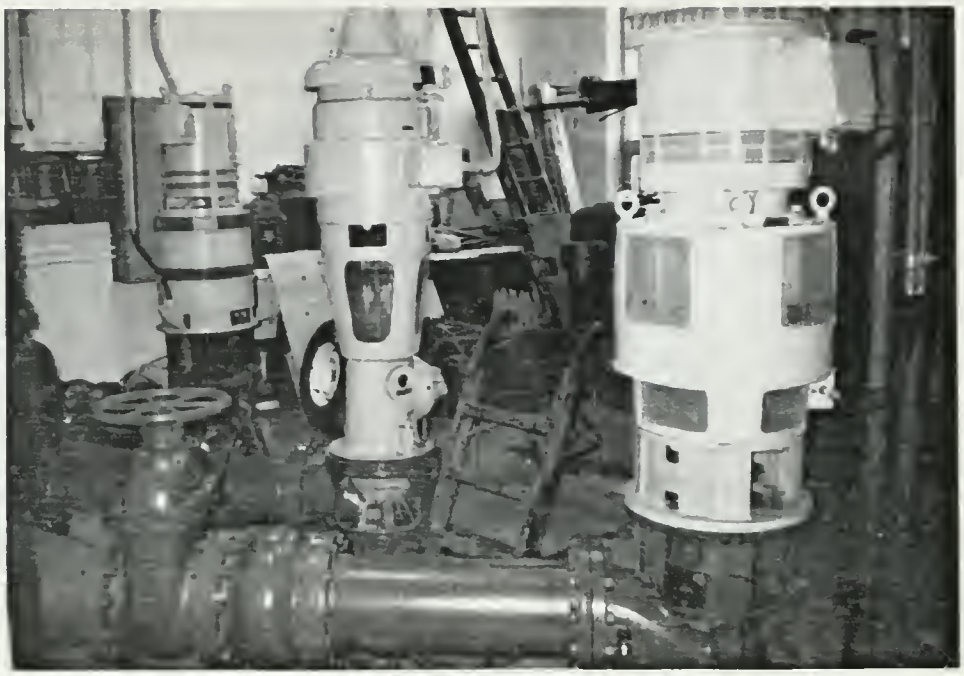
The plant has a 400 kW diesel engine and 450 kW generator which is capable of supplying sufficient power to operate all plant facilities. The system was originally provided with a system to automatically start the engine on power failure and transfer power, but at the present time, this is done manually due to the lack of an adequate alarm system.

### C.8 Photographs

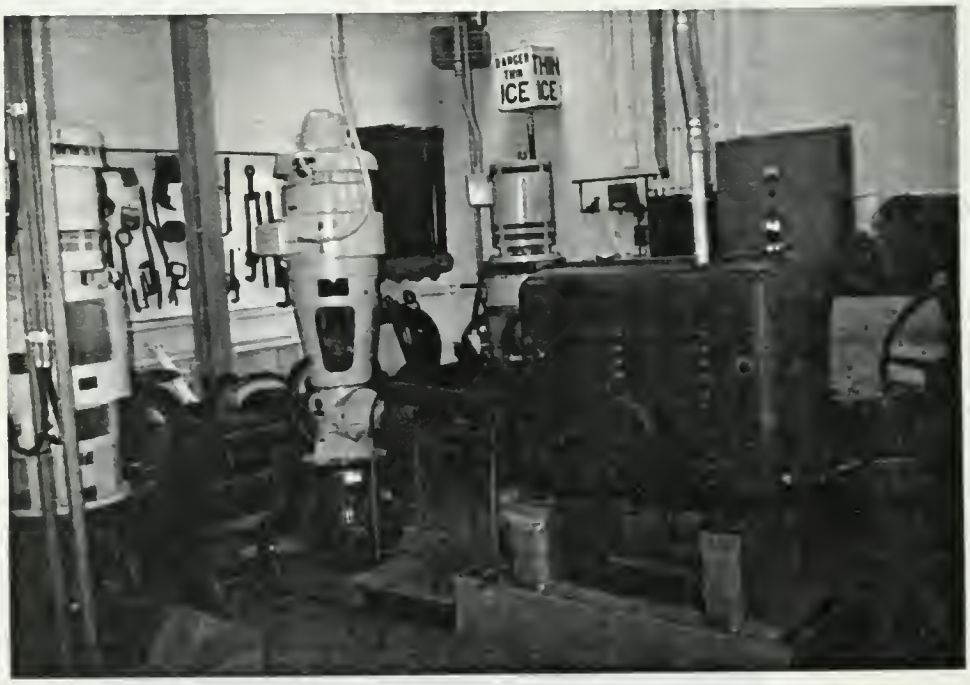
Following are photographs of the plant and its components.

SOUTH VIEW OF PLANT

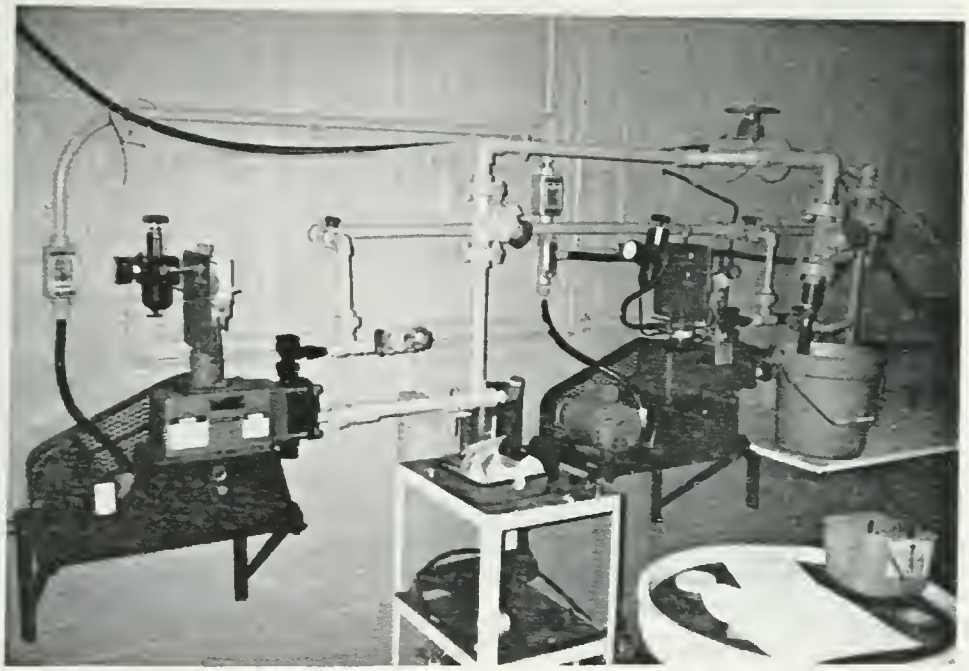
1136 $M^3$ ELEVATED WATER TANK



LOW LIFT PUMPS




STANDBY GASOLINE ENGINE ON LOW LIFT PUMP



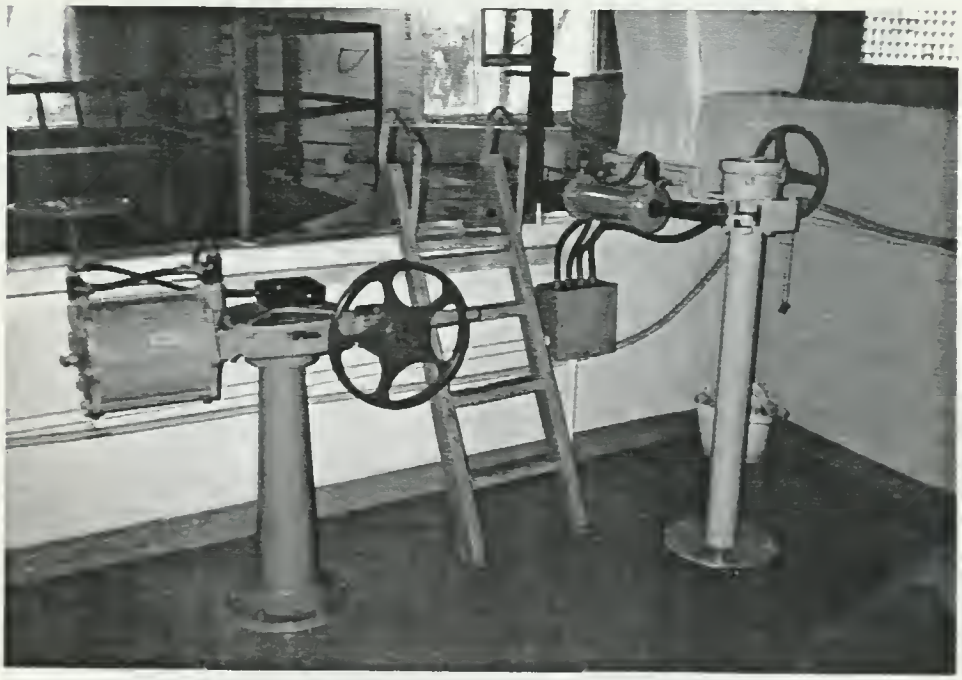
COAGULANT FEED PUMPS

FILTER AND CLARIFIER OPERATING FLOOR

STAIRS TO CLARIFIER BRIDGE

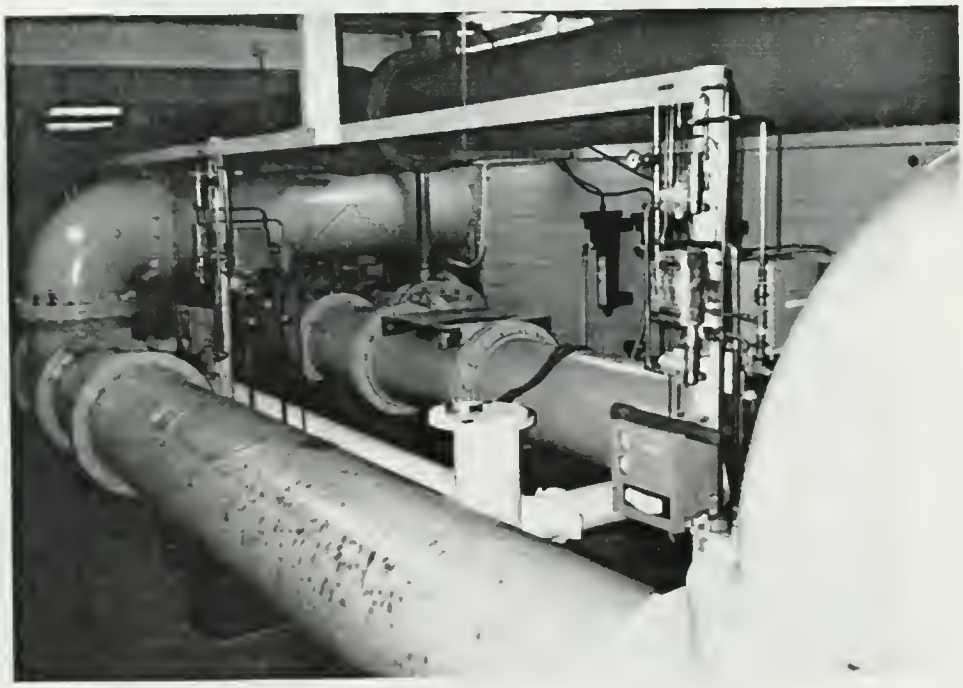
CLARIFIER SAMPLE PIPING

FILTERS

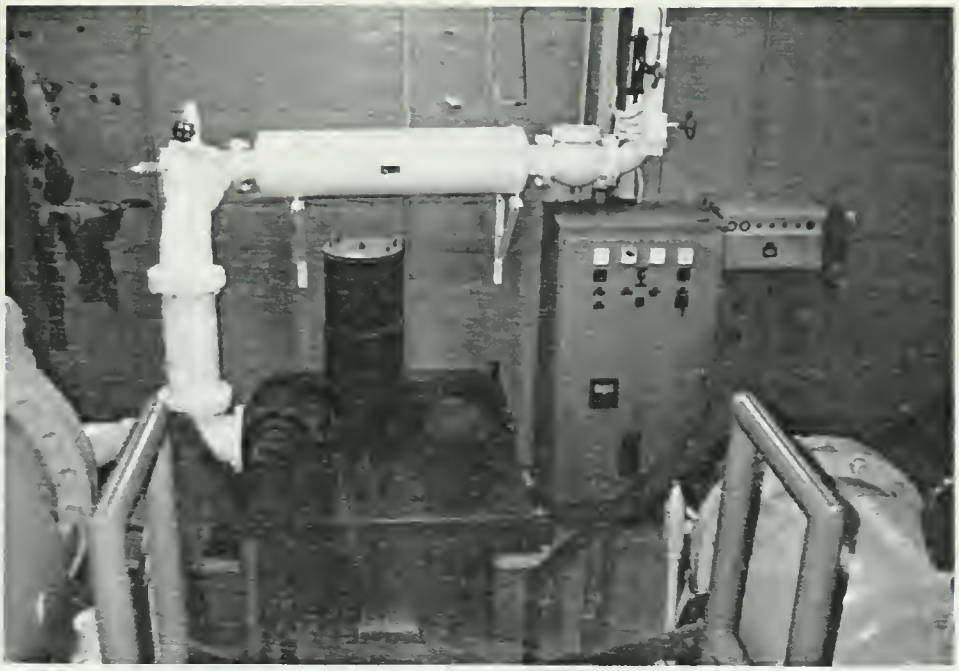


FILTER VALVE OPERATORS

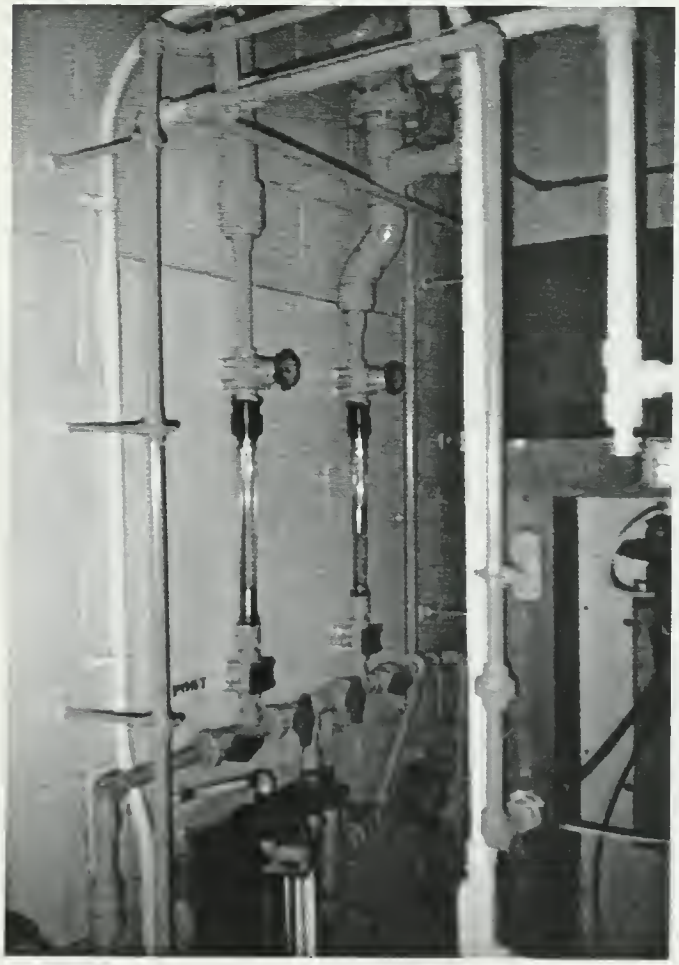
FILTER BACKWASH PANELS



FILTER PIPE GALLERY

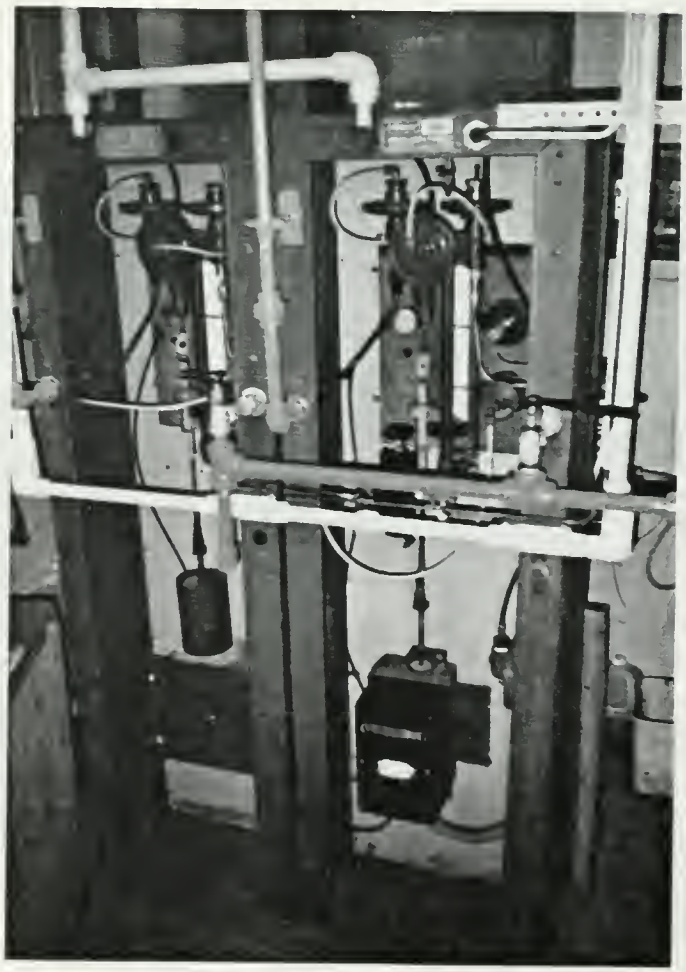


AIR BLOWER AND PIPING - FILTER AIR SCOUR

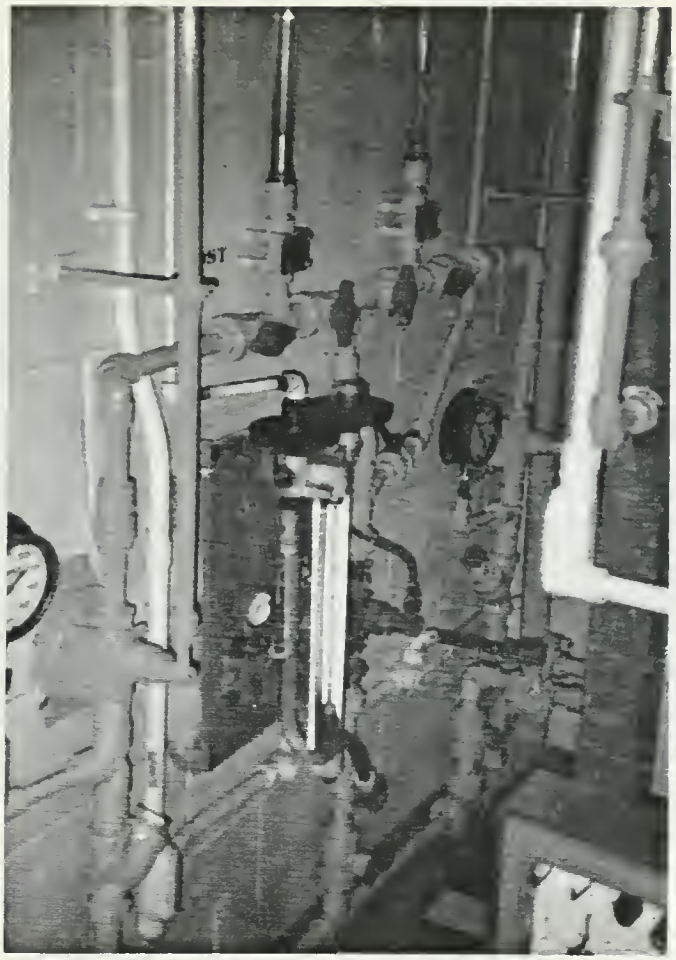


CHLORINE SOLUTION DISTRIBUTION PANEL

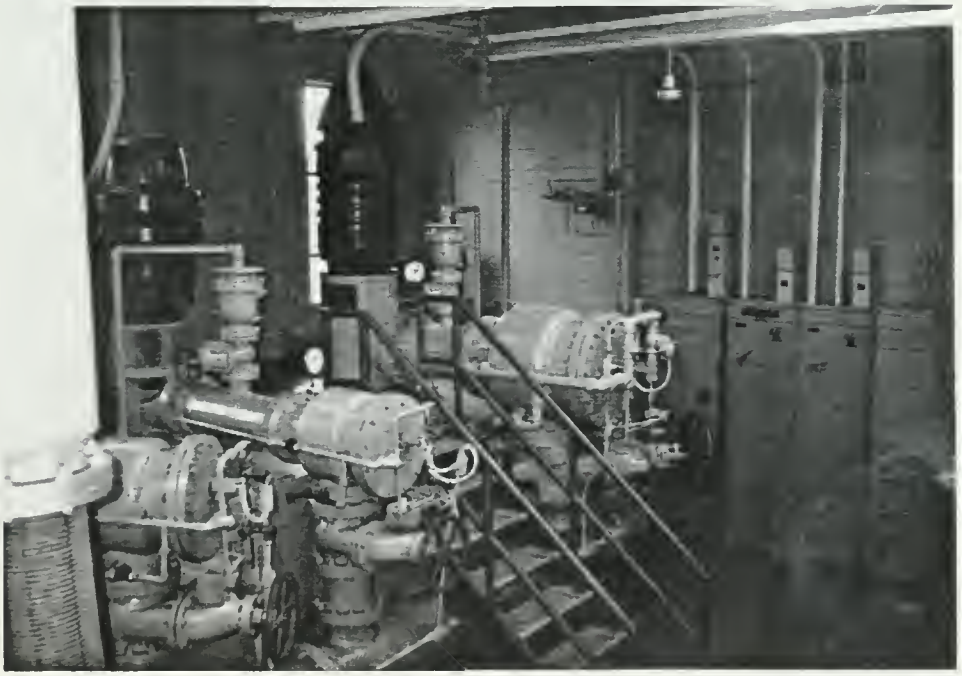
CHLORINE CYLINDER STORAGE



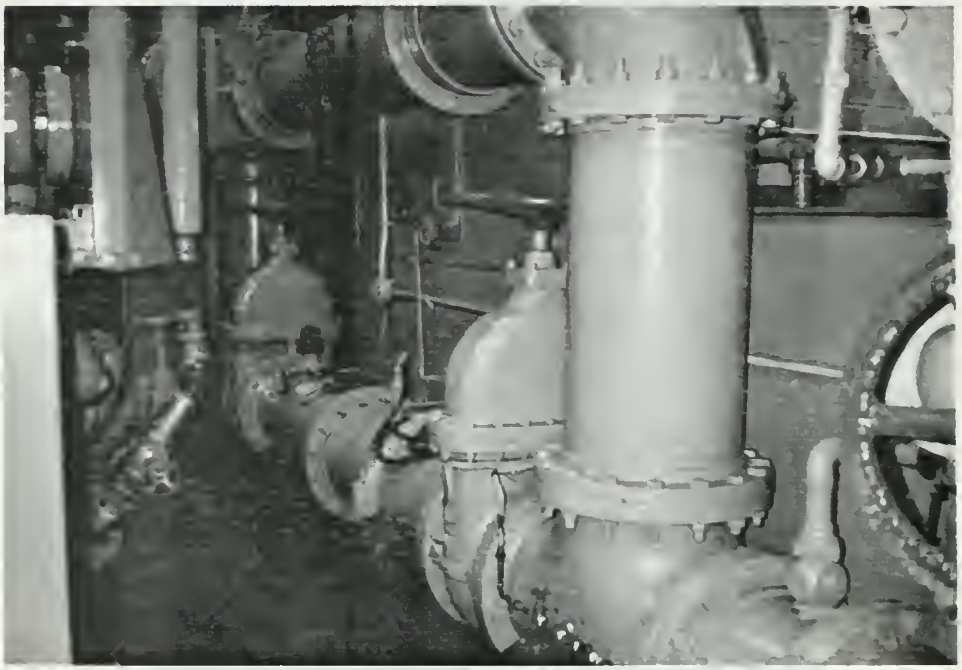
PRE AND POST-CHLORINATORS



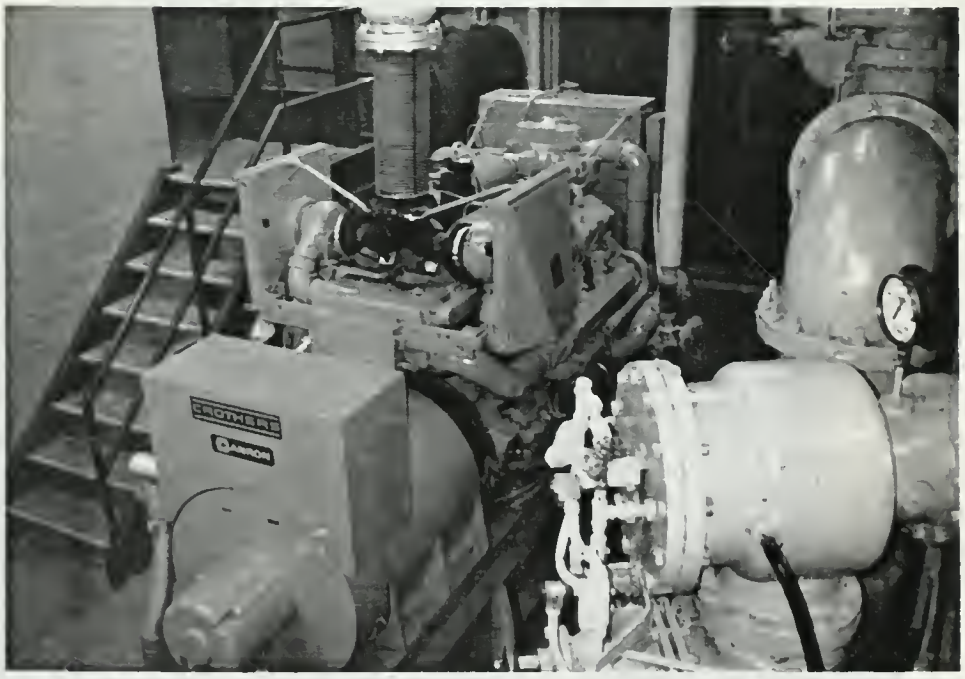
STANDBY CHLORINATOR



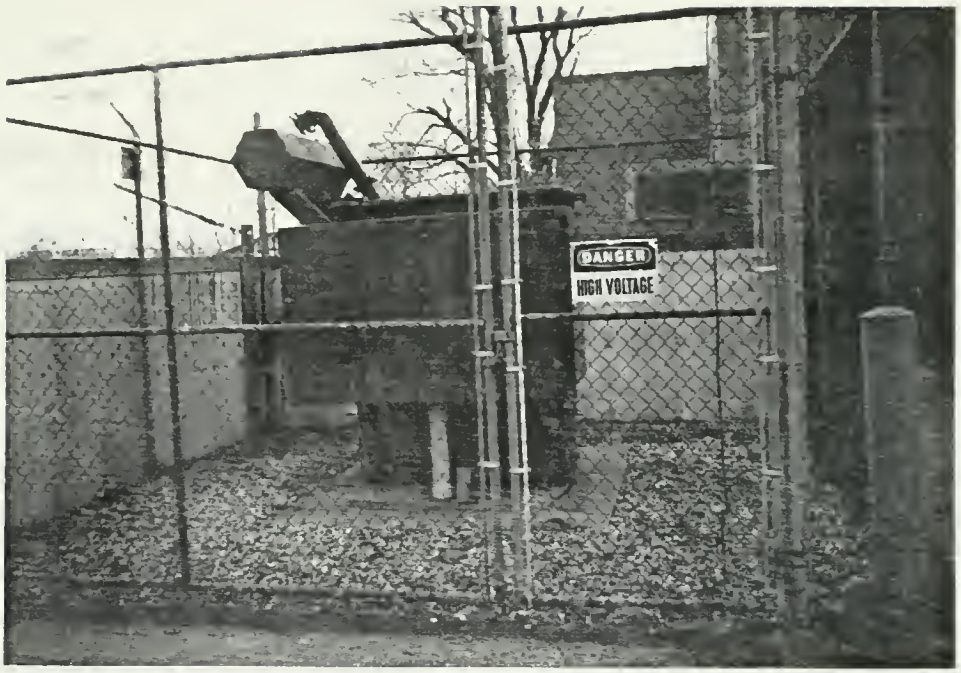
HIGH LIFT PUMPS



PLANT DISCHARGE METER AND BY PASS PIPING




STANDBY DIESEL ENGINE GENERATOR




TRANSFORMER

MASTER CONTROL PANEL

## SECTION D
## PLANT OPERATION

### D.1 General Description

The original Belle River Water Treatment Plant was constructed in 1926 and incorporated a pressure filter system. In 1945 a new plant was constructed on the same site. This custom-built plant included flash mixing, flocculation, sedimentation and rapid sand filtration. In 1968, a new intake and crib, low lift pump well and pump and a garage and workshop area were constructed. In 1974 a major renovation was undertaken in which solids contact upflow clarifier internals were installed in the settling tank, the filters were rebuilt (dual-media installed) and a new underground storage and high lift pumping system was provided.

The water treatment plant staff consists of a superintendent and two labourers whose normal working hours are from 7:30 a.m. to 4:00 p.m. five days per week. During the summer an additional staff member is employed for general building maintenance. In addition to operating and maintaining the plant, the staff repairs watermain breaks, installs new water services, flushes hydrants and carries out other required maintenance duties for the water distribution systems in the Town of Belle River and Maidstone Township. During a normal working day the three staff members are at the plant for the first 1 $^1/_2$ hours of the day checking the plant and backwashing filters. For the rest of the day, the superintendent is at the plant approximately 50 percent of the time and the labourers 25 percent of the time. One of the staff members spends about 20 minutes checking the plant at 10:00 p.m. On Saturday and Sunday a one hour plant check is made at 8:00 a.m., and one-half hour duration checks made at noon, 5:00 p.m. and 10:00 p.m.

None of the plant staff has had any formal electrical training but they have all taken some of the Ministry of the Environment operator courses.

## D.2 Flow Control

With respect to the rate of treatment, the operational objective is to keep the underground reservoir and the elevated water tank as full as possible. Depending on the level in the reservoir, the weather, and the time of year, the plant staff estimates from previous experience the anticipated daily demand. The operator sets the appropriate number of filters in operation and adjusts the filter effluent valves to give the desired filter flow rates.

The duty low lift pump, LL-1, has a variable speed drive and the speed is varied automatically to maintain a preset level in the filters. If the plant flow, as determined by the filter settings, is higher than the capacity of LL-1, the constant speed low lift pump LL-2 is started manually and the speed of LL-1 adjusts automatically to maintain filter level.

Although the flows are set to allow continuous plant operation, flow settings for night operation are set somewhat higher than necessary to ensure the reservoir is filled. When the reservoir is full, the filter outlet valves close automatically and when the filter level reaches a pre-determined high level, the low lift pump(s) stop automatically. When the reservoir level is drawn down to a pre-set level the treatment process resumes automatically.

The high lift pumps are controlled automatically by the water level in the Town's elevated tank. Tower level is transmitted to the plant over dedicated telephone lines and a high lift pump starts at a low tower level and stops when the tower is full. Only one of the smaller high lift pumps can operate automatically and when the system demand exceeds the capacity of one pump, the other pump is started and stopped manually.

## D.3 Disinfection Practices

Disinfection is accomplished by the use of chlorine. Liquid chlorine is stored in 68 kg (150 lb) cylinders and is put into solution with water through the use of gas chlorinators and ejectors. The Plant has three chlorinators for pre, post and stand-by chlorination.

Chlorine solution for pre-chlorination is added to the treatment stream in the clarifier effluent pipe with the objective of having a 1.0 mg/L free chlorine residual in the filter effluent.

Post-chlorination chlorine solution is added just before the splitter box (before the reservoir) and at the inlet to the high lift pump well in quantities to yield a free chlorine residual of 0.75 mg/L in the plant effluent. The post-chlorination system is operated manually.

The pre-chlorinator has a pneumatic positioner and chlorine feed rate is flow paced. Pre-chlorination dosage is adjusted manually.

Chlorination rates are adjusted on the basis of DPD colorimetric chlorine residual tests made 2 - 3 times per day. The post-chlorination system has equipment for compound loop control to automatically vary chlorine feed rate proportional to flow and dosage from the chlorine residual analyzer feed back. This system is not used due to the lack of sufficient sensitivity and precision of the chlorine residual analyzer.

The plant does not have facilities for determining the separate amounts of chlorine used for pre and post-chlorination. Total chlorine dosage (ie. pre and post) is determined daily based on the weight of chlorine used and the plant production. Pre and post-chlorination are recorded as one dosage.

## D.4 Operation of Specific Components

### a) Intakes

The plant's two 565 m (1,850 ft) long intakes 400 mm (16 in) dia. and 900 mm (36 in) dia. are both in service the majority of the time.

The 400 mm (16 in) dia. steel intake pipe is approximately 60 years old and a report prepared in 1959 indicated the intake's capacity was reduced by encrustation in the pipe. The flow contributed by this intake is not known but it is probably minor.

The 900 mm (36 in) diameter corrugated steel intake constructed in 1968 terminates at a rock-filled timber crib 565 m (1,850 ft) from shore. Water

enters the crib through a 300 mm (12 in) high opening around the periphery of the 2.9 m (9.5 ft) x 2.9 m (9.5 ft) crib. The opening is 1.4 m (4.5 ft) below mean lake level and approximately 1 m (3.3 ft) above lake bottom.

Frazil ice creates a problem almost every winter when lake levels are low. The plant has no special provisions for dealing with frazil ice.

**b) Screening**

The low lift pump well inlet has a 1.07 m (3.5 ft) wide bar screen with vertical bars spaced at 100 mm (4 in) and 1.07 m (3.5 ft) wide fine screens with 9.5 mm (0.375 in) mesh. The bar screen rarely collects any debris. The fine screens are removed and cleaned every 2 - 3 months with more frequent cleaning in the spring. A considerable amount of debris (ie. aquatic vegetation, snails, small fish, twigs, leaves, pieces of plastic) are collected on the fine screens. The screenings are deposited on plant property north of the garage.

**c) Low Lift Systems**

The plant has two low lift wells. LL Well No. 1 was formerly used as a suction source for the horizontal centrifugal pumps installed in 1945. Low Lift Well No. 2, constructed in 1968, was fitted with a new vertical turbine pump. At that time the two wells were interconnected by an opening through a common wall. The horizontal centrifugal pumps were taken out of service in the 1974 expansion project.

Low Lift Well No. 2 is taken out of service and cleaned in the spring and fall. The well accumulates 150 - 250 mm (6-10 in) of sediment between cleanings. The well is power washed and the sediment pumped to the lake. Well No. 1 is cleaned in a similar manner once per year.

There are two low lift pumps each having a capacity of 13.1 ML/d (2.9 mgd). LL-1 is driven by an electric motor through an eddy current

magnetic variable speed drive. LL-2 has a combination electric motor/gasoline engine drive.

LL-1 is the lead duty pump and the speed of the variable speed drive is adjusted automatically to maintain a preset filter level. When the treatment rate exceeds the maximum capacity of LL-1, LL-2 is started manually. With both pumps running, the speed of LL-1 is automatically varied to maintain the filter level. Both pumps are automatically stopped on high level in the filters and low level in the low lift pump well.
Raw water flow is measured by a venturi in the 400 mm (16 in) diameter low lift pump discharge main. Raw water flow is indicated, recorded and totalized in the main control panel.

The Town has contracted for the installation of a third 13.1 ML/d (2.9 mgd) low lift pump with variable speed drive. The new pump is to be installed in January 1988.

**d) e) f) Clarification**

Clarification is accomplished in a 15 m (49 ft) diameter x 4.83 m (15.83 ft) side water depth reinforced concrete tank with Elmco solids contact upflow type internals.

Liquid alum is added to the raw water in the low lift discharge main. Although activated silica and polymer have been used as coagulant aids in the past, no coagulant aid is presently used. Plant staff in conjunction with chemical suppliers have carried out numerous jar tests to evaluate the effectiveness of coagulant aids. While jar tests indicate improved treatment with some of the polymers, full scale tests have not improved treatment significantly. Because of the limited staff time available for plant operation and process monitoring, it would be difficult to effectively carry out an evaluation of trial treatment process modifications.

Effluent is collected from the surface of the tank through orifices in radial launders. The launders discharge to a peripheral channel which discharges to the 400 mm (16 in) diameter filter inlet piping.

Settled sludge is moved to the central hopper by scrapers. Samples of the sludge blanket are collected and allowed to settle in a 100 mL cylinder for 5 minutes. For flows up to 7.85 ML/d (1.73 mgd) sludge is removed to maintain 15 - 20 percent by volume settled solids. For higher flows, solids concentration higher than 4 - 5 percent cannot be maintained without the sludge rising and floc carry over in the clarifier effluent.

Sludge concentration is normally checked once or twice per day. During periods of high raw water turbidity, sludge settling tests are done every 15 - 20 minutes until the process stabilizes. Settling tests are also carried out on samples from the inner and outer cones but the results are not apparently used as a basis for process changes.

Sludge is wasted continuously. The plant has no provision for measuring sludge blow down and the quantity wasted is not known. Sludge blow down drains to the lake through the backwash waste water drain.

Varying the speed of the turbine is not used as a means of adjusting treatment effectiveness.

The Town has contracted for the installation of tube settlers in the clarifier. This work will be completed in February 1988.

**g) Filters**

The plant has three independent dual media (ie. sand/anthracite) filters with Elmco Flexkleen stainless steel nozzle underdrains. Each filter is 5.03 m x 5.18 m (16.5 ft x 17 ft) and utilizes air scour auxiliary wash.

Filter flow is measured by a 400 mm (16 in) dia. venturi in the filter effluent piping and flow is controlled by a butterfly valve downstream of the venturi.

The desired filtering rate is set manually on the filter flow controller and the butterfly control valve adjusts automatically to maintain a constant flowrate. Water level in the filter is maintained at the proper elevation by the raw water control system which automatically increases or decreases flow to the filters to keep the filter level constant.

The range of filtering rates varies from a minimum of 3.15 m/h (1.07 gpm/sq ft) to a maximum of 8.4 m/h (2.86 gpm/sq ft). The filter headloss recorder indicates headloss varies from 30 mm (1.2 in) for a clean bed to 1,200 mm (48 in) for a dirty bed. The readings indicate that the headloss measuring system may need recalibration.

Normally two filters are in operation with the third filter put in service during high demand periods. Filter flow rates are adjusted each morning based on the operator's estimate of the daily demand. Filter flow rates are checked at noon, 4:00 p.m. and 10:00 p.m. and adjusted as required.

Filter flow rates are selected in an attempt to maintain continuous plant operation. However, shut-downs sometimes occur, predominantly at night. Treatment shut down occurs automatically when a high reservoir level closes the filter effluent valves which in turn creates a high filter level that stops the low lift pumps. Treatment commences when a low reservoir level occurs.

The decision to backwash is made on the basis of filter effluent turbidity and run time. Filters are backwashed after 72 hours unless filter effluent turbidity exceeds 0.5 FTU or headloss exceeds 1,200 mm (48 in).

Following is a brief description of backwash procedure:

- Close filter inlet.
- Open drain valve.
- Close filter effluent valve when water level is approximately 150 mm (6 in) above media.
- Start air blower, open air inlet.
- Shut-off air after 10 minutes.

- Open wash water inlet valve gradually.
- After 20 minutes close drain valve.
- Close backwash water inlet valve when filter level rises to just below normal operating level.
- Open filter inlet.
- Leave filter effluent valve closed until the filter is required for operation.

Each filter has a small control station which has pushbuttons for starting and stopping the air scour sequence cnd opening and closing the filter effluent valve. The pneumatic system for operating the filter effluent butterfly valve has a ramp generator which causes the valve to open and close slowly.

Filter backwash water is stored in a 305 $m^3$ (67,000 gal) steel tank on the roof of the plant.

**h) High Lift Pumping**

To facilitate cleaning and pump maintenance, the High Lift pump well is divided in two sections with an interconnecting sluice gate. The two smaller high lift pumps (HL-1 and HL-2) are installed in one section (HL Well No. 1) and the largest high lift pump in the other (HL Well No. 2). In normal operation, the interconnection between the wells is open. Water from the filter clearwell discharges to a chamber which has valved connections to the reservoir and HL Well No. 2. Normally, the connection is open to the reservoir. The reservoir has a dividing wall with a valved opening in the wall at the far end reservoir. Water passes through the opening and flows through the second section of the reservoir into the HL Well No. 1. This arrangement avoids stagnation in the reservoir and facilitates cleaning the reservoir. Water from the clearwell can be discharged directly to HL Well No. 2 if the first half of the reservoir is out of service.

Diffusers for addition of post-chlorination chlorine solution are located at the inlets to the high lift wells.

Normally the capacity of one of the smaller high lift pumps (HL-1/HL-2) is sufficient to meet the system demand. The control system allows for either one of these pumps to be selected for automatic operation. The elevated water storage tank level is transmitted to the plant on dedicated telephone wires and the pump will start on low tower level and stop on high tower level. During high demands, the capacity of one pump is sometimes insufficient and the second high lift pump is operated manually.

## D.5 Chemicals

### a) Coagulant

Liquid alum is fed into the low lift pump discharge header by two diaphragm metering pumps. The pumps have air operated stroke length positioners and alum feed rate is adjusted automatically in linear proportion to raw water flow. Alum dosage is adjusted manually. Normally, both alum feed pumps are on, each feeding one-half the alum required. This is done to ensure some alum is being fed in the event one of the pumps breaks down while the plant is unattended.

The plant staff has carried out numerous jar tests and alum dosage is determined from results of the jar tests and past experience, taking into account raw water turbidity, raw water flow and temperature.

The alum pumps are calibrated once per week and more often when alum dosages are changed frequently during adverse raw water conditions. Average daily alum dosage is calculated from the measured amount of alum used (tank levels) and the daily raw water flow.

### b) Pre-Chlorination

Chlorine solution is added to the clarifier effluent at a rate to maintain 1.0 mg/L free chlorine residual in the filter effluent. Chlorine feed rate is adjusted automatically in linear proportion to raw water flow. Chlorine dosage is adjusted manually in response to chlorine residual tests carried out 2 - 3 times per day.

c) **Post-Chlorination**

Chlorine solution is added through diffusers at the high lift pump well inlet. Chlorine dosage is adjusted manually in response to the results of chlorine residual tests to maintain 0.75 mg/L free chlorine residual in the plant effluent.

The post-chlorination system has facilities for compound loop control which adjusts chlorine feedrate in linear proportion to flow with dosage adjustment from feed back from the chlorine residual analyzer. This automatic system is not used because of the difficulty in ensuring reliable feedback from the chlorine residual analyzer.

Average daily chlorine dosage is calculated from the weight of chlorine used and the plant flow. The weights of chlorine used for pre-chlorination and post-chlorination cannot be measured separately. Plant records indicate the total chlorine dosage.

## D.6 Sampling and Data Collection

Table 9 summarizes the testing and data recording procedures at the plant.

Every Monday, 7 samples are collected and sent to the Ministry of Health Laboratory in Windsor for bacteriological testing as follows:

| | | |
|---|---|---|
| 1 sample | - | raw water |
| 1 sample | - | plant effluent |
| 5 samples | - | from distribution systems in Belle River, Rochester and Maidstone |

In addition, a weekly set of bacteriological samples is collected and sent to the Ministry of the Environment (MOE) laboratory in London.

| | | |
|---|---|---|
| 1 sample | - | raw water |
| 1 sample | - | plant effluent |
| 2 samples | - | from distribution systems |

TABLE 9

SAMPLING AND TESTING SUMMARY

BELLE RIVER AREA WATER TREATMENT PLANT

| TEST | CHEMICAL APPLICATION POINT | SAMPLING POINT | TESTING FREQUENCY | RECORDING FREQUENCY | TESTING INSTRUMENT |
|---|---|---|---|---|---|
| Raw Water Turbidity | - | Low Lift Pump Discharge | 2 times/day | Once/day | Hach-Model 18900 Ratio Turbidimeter |
| Clarifier Effluent Turbidity | - | Filter Influent | 1-4 times/day | Once/day | Hach-Model 18900 Ratio Turbidimeter |
| Filter Effluent Turbidity | - | Filter Effluent Piping | 3-4 times/day | Once/day | Hach-Model 18900 Ratio Turbidimeter |
| Plant Effluent Turbidity | - | Discharge Header (Lab Sink Tap) | 3-4 times/day | Once/day | Hach-Model 18900 Ratio Turbidimeter |
| Pre-chlorination Residual | Filter Influent | Filter Effluent | 2-3 times/day (free) | Once/day | Wallace & Tiernan Amperometric Titrator & Hach dr/2 Spectrophotometer |
| Post-chlorination Residual | High Lift Well Inlet | Discharge Header (Lab Sink Tap) | 2-3 times/day | Once/day | Wallace & Tiernan Amperometric Titrator & Hach dr/2 Spectrophotometer |
| pH | - | Low Lift Pump Discharge<br>High Lift Discharge Header | Once/day | Once/day | Hach dr/2 Spectrophotometer |
| Aluminium | - | High Lift Discharge Header | Once/day | Once/day | Hach dr/2 Spectrophotometer |

In addition, an annual sample was sent to the London MOE laboratory for the following:

| | |
|---|---|
| Hardness | Conductivity |
| Alkalinity | Colour |
| Chloride | Iron |
| pH | |

Colour and pH were measured monthly at the London MOE laboratory. Other sampling is done on an as-needed basis.

### D.7 Process Automation

The plant has an extensive pneumatic/electric control system. The main control panel has a graphic display, push buttons for remote operation of equipment, water level indication in the low lift pump well, filters and reservoir, filter headloss indication and flow indication/recording/totalizing for raw water, filters and plant effluent.

All record keeping is manual.

### D.8 Alarms

The 1974 expansion included the provision of an alarm panel in the master control panel. The alarm system was not connected to a remote location.

The Town is presently in the process of installing a system to transmit alarm signals to a security company which will contact staff if an alarm is received when the plant is unattended.

### D.9 Operator Duties and Plant Maintenance

The plant does not have a written procedure for daily operator duties.

In general, daily tasks are as follows:

| | | |
|---|---|---|
| 7:00 - 9:30 a.m. | - | All staff at plant. |
| | - | Collect samples and carry out tests. |
| | - | Backwash filters. |
| | - | Set filter flow rates. |
| | - | Make adjustments to chemical dosages as required. |
| | - | Check equipment for proper operation. |
| Noon | - | Check reservoir level and adjust filter flow rates if required. |
| | - | Check equipment for proper operation. |
| | - | Collect samples and carry out tests and adjust chemical dosages if required. |
| 3:30 p.m. | - | Same as noon. |
| 10:00 p.m. | - | Same as noon. |

On Saturday and Sunday a staff member will visit the plant at 8:00 a.m., noon, 5:00 p.m. and 10:00 p.m. to check the equipment and make adjustments in filter flow rates and chemical dosages as required.

The plant has a card system for carrying out a regular equipment maintenance program. The space available in the plant for storage and a workshop area is very limited.

## SECTION E
## PLANT PERFORMANCE

### E.1 Particulate Removal

Prior to March 1986, turbidity tests at the plant were carried out on raw water samples only. Raw water turbidity was measured with a Hach dr/2 spectrophotometer. The monthly treated water turbidities in the plant records were obtained from MOE test reports. The effectiveness of particulate removal therefore can be based only on the records from March 1986 to December 1986.

As mentioned earlier, the plant intake is in close proximity to Belle River and Duck Creek which transport copious quantities of sediment to Lake St. Clair. In addition, moderate winds disturb lake bottom sediments. These factors cause very rapid increases in raw water turbidity. Raw water turbidity can be very high and on occasion has been beyond the measuring range of the turbidimeter. Raw water turbidities are highest during spring run-off, the stormy period in November and winter thaws. Table 10 gives a summary of raw water turbidity for the 1984-1986 study period.

Table 11 gives a summary of raw water turbidity and corresponding clarifier effluent and filter effluent turbidities and coagulant dosages for the period March - December 1986. Plant effluent turbidities for the same period were as shown on Table 12.

The data indicates excellent particulate removal. From March 1986 to December 1986 the plant effluent was always lower than the Ontario Drinking Water Objective of 1 FTU and was substantially lower a good deal of the time. (ie. 0.20 FTU or lower 97.7 percent of the time). This indicates the plant staff is making a concerted effort not only to meet the Ontario Drinking Water Objective, but to keep plant effluent turbidity at a much lower value. The data shows that even at high raw water turbidity, effluent quality can be kept at an acceptable level.

Aluminum residual tests have been carried out on treated water samples only since September 1986. Test results indicate minimum, maximum and average aluminum residuals in treated water from September to December 1986 to be 0.02 mg/L, 0.05 mg/L and

**TABLE 10**

**SUMMARY OF RAW WATER TURBIDITY**

**1984 - 1986**

**BELLE RIVER AREA WATER TREATMENT PLANT**

| | |
|---|---|
| **Minimum** | 0.1 FTU |
| **Maximum** | 650 FTU |
| **Average** | 47.8 FTU |

| **Turbidity equal to or less than** *(FTU)* | **Percentage of time** |
|---|---|
| 500 | 100 |
| 200 | 96.6 |
| 150 | 94.9 |
| 100 | 91.6 |
| 50 | 79.1 |
| 25 | 48.2 |
| 15 | 24.2 |
| 10 | 12.6 |
| 5 | 5.8 |

TABLE 11

TURBIDITY AND COAGULANT DOSAGE SUMMARY

MARCH - DECEMBER 1986

BELLE RIVER AREA WATER TREATMENT PLANT

| RAW WATER | | AVERAGE TURBIDITY | | AVERAGE COAGULANT DOSAGE |
|---|---|---|---|---|
| Turbidity *(FTU)* | Percent of Time | Settled *(FTU)* | Filtered *(FTU)* | *(mg/L)* |
| 201 - 500 | 0.07 | 6.61 | 0.08 | 156.6 |
| 151 - 200 | 0.09 | 16.87 | 0.11 | 98.8 |
| 126 - 150 | 1.0 | 7.43 | 0.09 | 85.0 |
| 101 - 125 | 1.0 | 7.81 | 0.11 | 84.8 |
| 76 - 100 | 3.0 | 2.48 | 0.16 | 82.1 |
| 51 - 75 | 11.5 | 3.36 | 0.10 | 70.23 |
| 41 - 50 | 11.2 | 2.44 | 0.07 | 64.18 |
| 31 - 40 | 17.7 | 2.46 | 0.07 | 58.9 |
| 26 - 30 | 10.6 | 1.85 | 0.09 | 56.7 |
| 21 - 25 | 13.8 | 1.55 | 0.08 | 50.9 |
| 16 - 20 | 15.1 | 1.99 | 0.07 | 47.7 |
| 11 - 15 | 9.6 | 1.33 | 0.09 | 44.9 |
| 8.1 - 10 | 3.9 | 1.28 | 0.08 | 39.3 |

**Raw Water Turbidity**
*(FTU)*

| | |
|---|---|
| Minimum | 8.1 |
| Maximum | 500 |
| Average | 38 |

TABLE 12

PLANT EFFLUENT TURBIDITY

MARCH - DECEMBER 1986

BELLE RIVER AREA WATER TREATMENT PLANT

| Turbidity equal to or less than *(FTU)* | Percentage of time |
|---|---|
| 0.90 | 100 |
| 0.80 | 99.7 |
| 0.70 | 99.7 |
| 0.60 | 99.0 |
| 0.50 | 98.7 |
| 0.40 | 98.4 |
| 0.30 | 98.0 |
| 0.20 | 97.7 |
| 0.10 | 94.1 |
| 0.05 | 23.7 |

0.03 mg/L respectively which are well below the Ontario Drinking Water Objective of 0.10 mg/L.

Problems occur in clarifier operation mainly because of relatively sudden increases in raw water turbidity which cause upsets in the clarifier and floc carry-over in the clarifier effluent. The plant superintendent indicates these problems arise because the plant is unmanned most of the time and process changes cannot be made when they are required.

### E.2 Disinfection

Plant practice is to pre-chlorinate the clarifier effluent to maintain a 1.4 mg/L free chlorine residual in the filter effluent. Post-chlorination is carried out by adding chlorine solution to the high lift pump well inlet to maintain 0.75 mg/L free chlorine residual in the plant effluent.

The plant does not have facilities for determining the separate amounts of chlorine use for pre and post-chlorination. The total daily chlorine dosage is calculated based on the weight of chlorine used and the daily flow and is recorded as the post-chlorination dosage.

Bacteriological test results for the study period (1984-1986) indicate the absence of coliforms in all but one instance in January 1986. All test results of samples from the distribution systems indicate the absence of coliforms. It appears the plant is able to disinfect the water effectively.

Prior to the study period, the application point for pre-chlorination was changed from raw water to clarifier effluent to reduce the formation of trihalomethanes. Trihalomethane test results for the study period were not available at the plant.

## SECTION F
## RECOMMENDATIONS

The report indicates that particulate removal and disinfection are good and it would be very difficult to improve treatment efficiency given the fact the plant is unmanned most of the time. Without constant supervision and monitoring, programs to evaluate process modifications such as the use of coagulant and filter aid or the use of a streaming current meter for coagulant dosage adjustment would not be effective.

1. It appears that particulate removal efficiency suffers when staff are not at the plant to take appropriate action to compensate for increases in raw water turbidity. As a means of avoiding excessive floc carry over to the filters and possible degradation of filter effluent quality, a clarifier effluent sample could be fed to a continuous flow turbidimeter with a high turbidity signal connected to the alarm system.

2. In order to make more efficient use of the staff's time at the plant, it is suggested that continuous samples of raw water, clarifier effluent, combined filter effluent (sample from clearwell) be fed to display jars installed in the laboratory/office area.

3. Continuous flow turbidimeters on raw water, clarifier effluent, each filter effluent and plant effluent with turbidity indicators in the office/laboratory would be a definite asset.

4. The plant effluent sampling arrangement should be changed to shorten the sample travel time which could, at times, be as long as two hours. The sampling line flow should be monitored regularly.

5. The plant should be run on a steady-state basis to minimize process upset.

6. Record keeping should be incorporated into a PC-based spreadsheet system in order to save time and increase use of the data.

7. All flowmeters should be recalibrated, refurbished if necessary and the changes documented.

8. Repair the treated water flow totalizer on the main control panel.

9. Replace the deteriorated screen in the screen well.

10. When staff is replaced consideration should be given to hiring personnel with electrical experience.

11. Conduct a study to determine possible remedial actions for frazil ice conditions.

12. Develop a sampling and analysis program to facilitate compliance with the Ontario Drinking Water Objectives and include operational parameters such as residual aluminium.

13. The Belle River Water Treatment Plant should be included in DWSP.

14. Calibration chambers should be installed on all feed pumps. Calibrations should be conducted and recorded weekly.

15. Conduct a study to determine if residual aluminium can be used as an operational parameter.

16. A study should be done to determine if a streaming current meter would be beneficial for coagulant dosage control.

17. Evaluate the use of a sludge level detector on a trial basis to determine whether or not a better understanding of clarifier operation will be achieved.

18. Study methods of improving performance of the clarifier under high turbidity loadings.

19. Provide the means to more evenly distribute the chlorine solution in the filter influent.

20. Conduct sieve analyses and a filter media inspection annually.

21. Install a flow measuring device on the backwash water supply to prevent accidental high backwash flow and subsequent media loss.

22. Calibrate the filter headloss recorder regularly.

23. The capacity of the stand-by chlorinator should be increased to match the capacity of the pre and post-chlorinators.

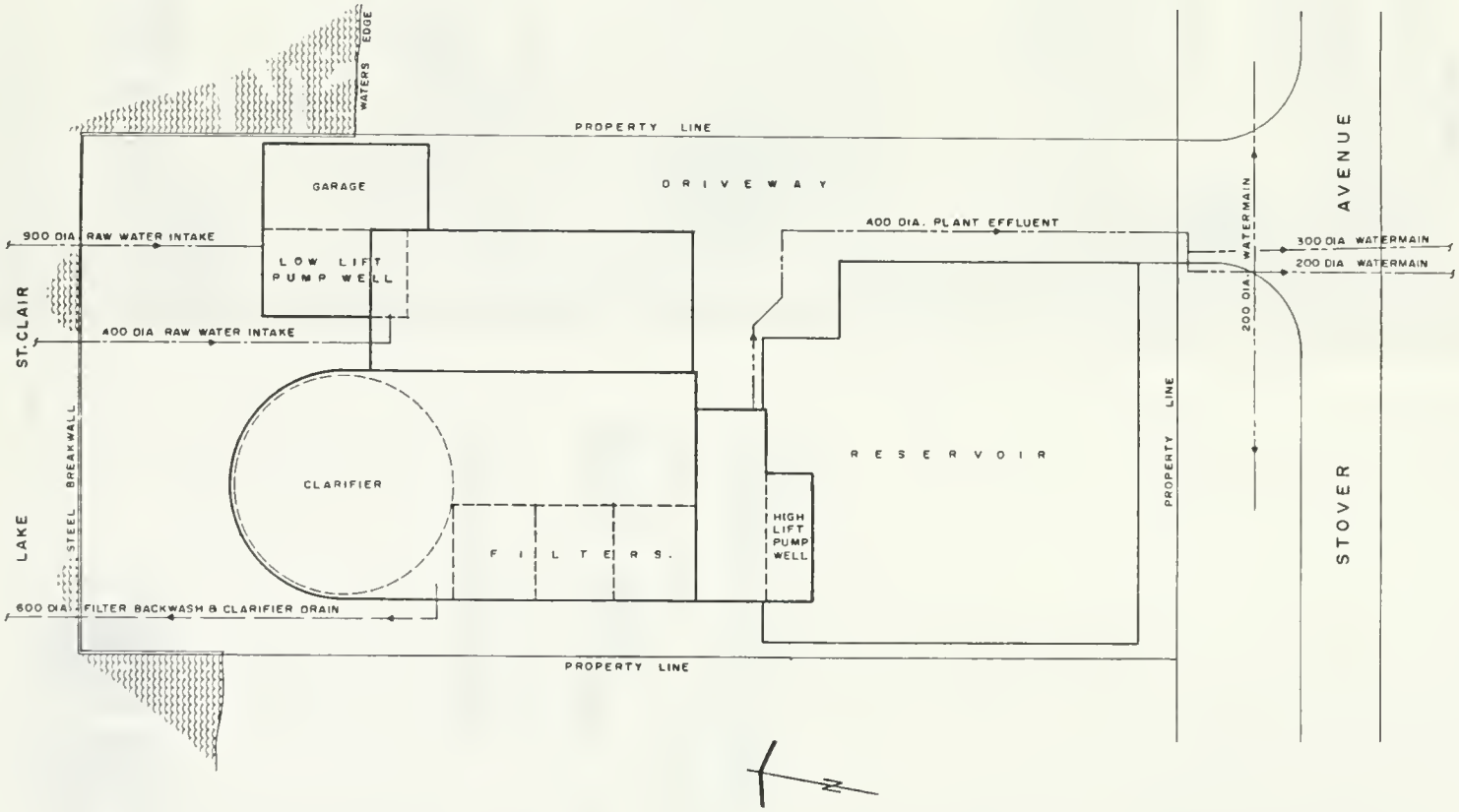
24. Replace the chlorine analyzer with an instrument of greater sensitivity and precision.

25. Provide the means to separately measure the amounts of chlorine used for pre and post-chlorination.

## APPENDIX A

Figure No. 3 - Site Plan

Figure No. 4 - Block Schematic




WATER PLANT
OPTIMIZATION STUDY

MOE Project N° 7-2030

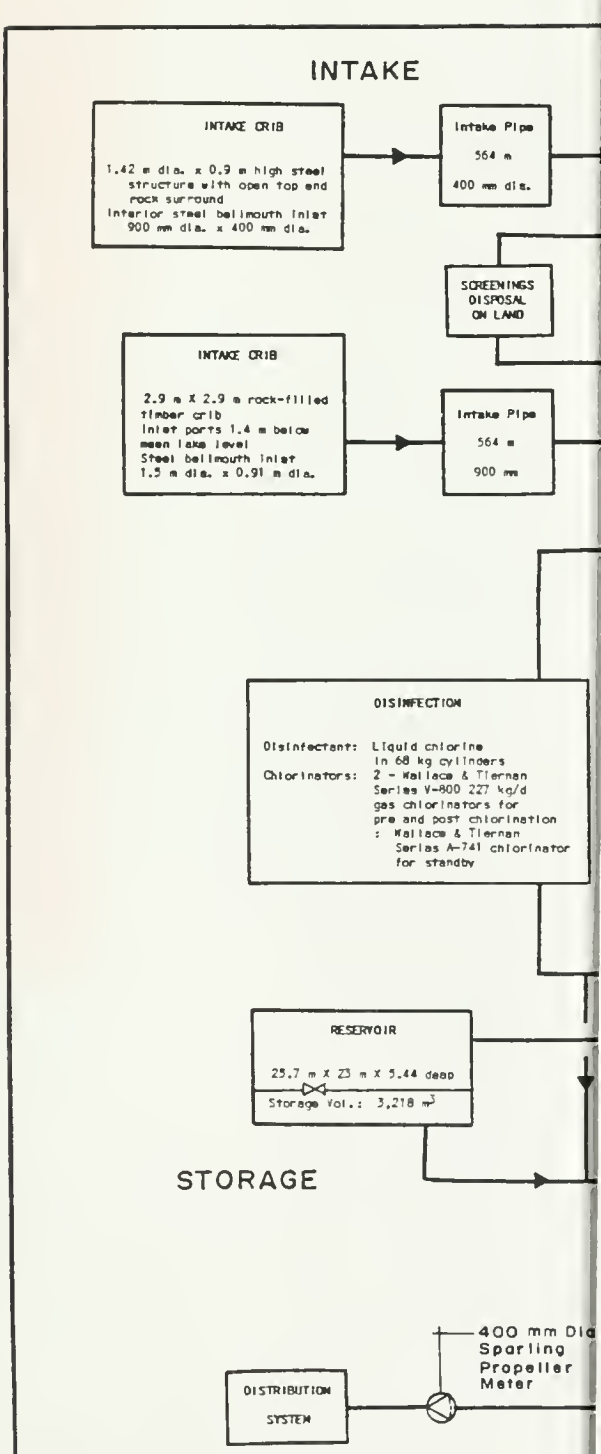
BELLE RIVER
WATER TREATMENT PLANT

SITE PLAN

0 5 10
SCALE — METRES

LA FONTAINE, COWIE, BURATTO & ASSOCIATES LIMITED
CONSULTING ENGINEERS

Date 1988 01-19
File N° WR 158 8
Figure N° 3




# WATER PLANT OPTIMIZATION STUDY

MOE Project N° 7-2030

## BELLE RIVER WATER TREATMENT PLANT

## BLOCK SCHEMATIC

LA FONTAINE, COWIE, BURATTO & ASSOCIATES LIMITED
CONSULTING ENGINEERS

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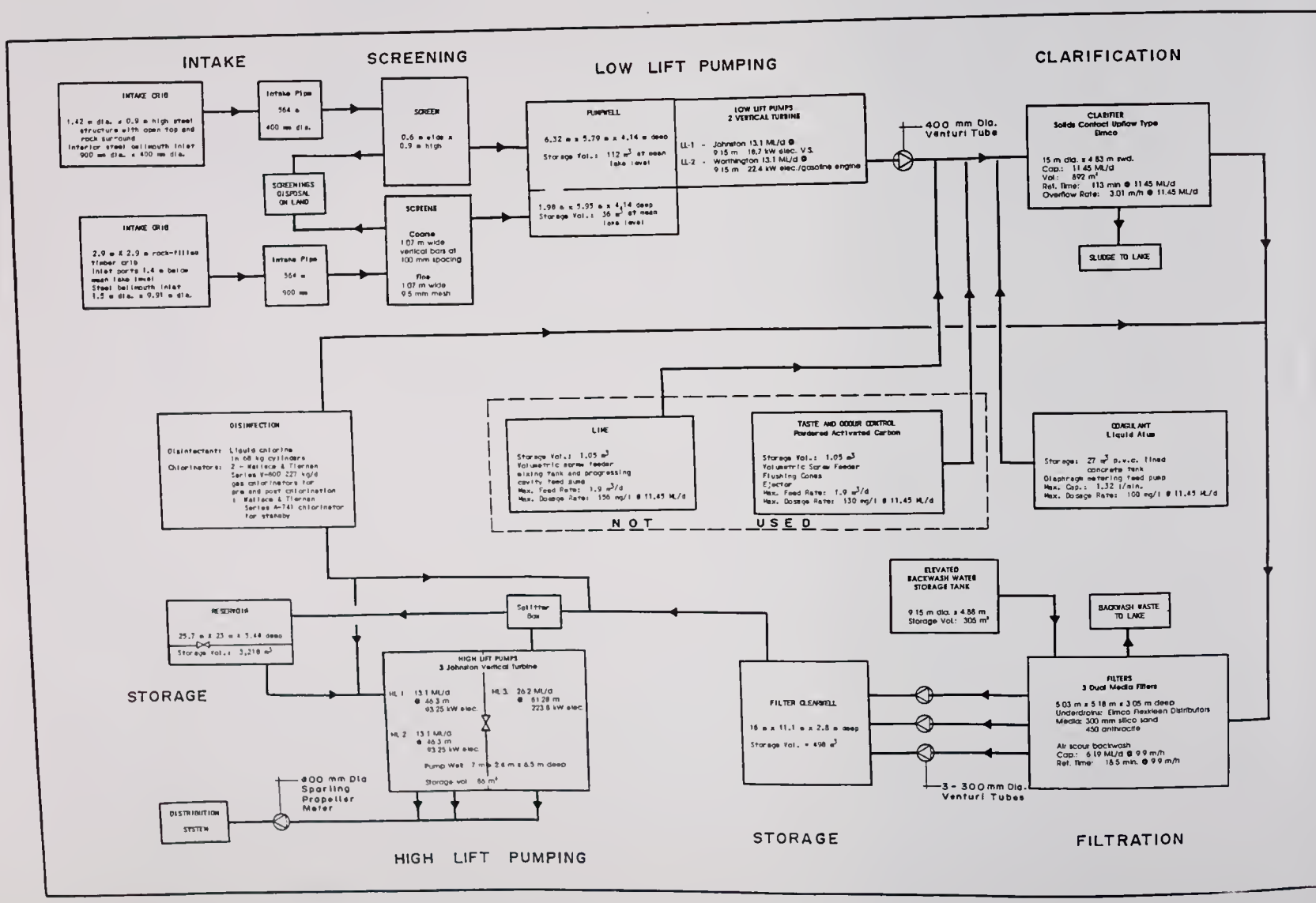


WATER PLANT
OPTIMIZATION STUDY

MOE Project N° 7-2030

BELLE RIVER
WATER TREATMENT PLANT

BLOCK SCHEMATIC

LA FONTAINE, COWIE, BURATTO & ASSOCIATES LIMITED
CONSULTING ENGINEERS

| | |
|---|---|
| Date | |
| File N° | WR 158 B |
| Figure N° 4 | |

# APPENDIX B
# PLANT RECORD SHEETS

Operating Data
Plant Residuals
Plant Turbidities
Clarifier Data

PROJECT: 6-0190-68

OPERATING DATA
BELLE RIVER WATERWORKS

MONTH OF: _____ 19___

| DATE | LOW LIFT Reading | LOW LIFT Tot. | LOW LIFT Rev. | FILTER #1 Reading | FILTER #1 BW | FILTER #1 LOH | FILTER #2 Reading | FILTER #2 BW | FILTER #2 LOH | FILTER #3 Reading | FILTER #3 BW | FILTER #3 LOH | TOWER LEVEL | PRESS. | MID. TOWER | HIGH LIFT Reading | HIGH LIFT Tot. | RESERV. LEVEL | ALUM In. | ALUM Gal. | $Cl_2$ lbs. | $Cl_2$ Wt. | BACKWASH WATER | INTAKE RESID. | WEATHER |
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BELLE RIVER WATERWORKS PLANT RESIDUALS MONTH of ________ 19__

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BELLE RIVER WATERWORKS PLANT TURBIDITIES MONTH OF: ________ 19 __

| DATE | TIME | RAW WATER | CLARIFIER EFF. | FILTER #1 EFF. | FILTER #2 EFF. | FILTER #3 EFF. | PLANT EFF. | SIGN | |
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CLARIFIER DATA

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| DATE | TIME | LOWER SETT. % | UPPER SETT. % | INNER CONE % | OUTER CONE % | SOLIDS FAIR | GOOD | EXL | ALUM FEED RATE PPM | RAW WATER TURB. NTU | LOW LIFT FLOW GAL./MIN | ALUM PUMP SETTINGS #1 PUMP | #2 PUMP | MLS / MIN. ALUM | BLOW DOWN | S |
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## APPENDIX C

DATA TABLES

| Table No. | Description |
|---|---|
| 1.0 | Flows (1 page) |
| 1.1 | Daily Flows (4 pages) |
| 2.0 | Particulate Removal Summary (4 pages) |
| 2.1 | Particulate Removal Profile - 1984 (12 pages) |
| 2.1 | Particulate Removal Profile - 1985 (12 pages) |
| 2.1 | Particulate Removal Profile - 1986 (12 pages) |
| 3.0 | Disinfection Summary (4 pages) |
| 3.1 | Disinfection Profile - 1984 (12 pages) |
| 3.1 | Disinfection Profile - 1985 (12 pages) |
| 3.1 | Disinfection Profile - 1986 (12 pages) |
| 4.0 | T & O Control Alkalinity |
| | Adj. & Fluoridation Summary (1 page) |
| 4.1 | T & O Control Alkalinity |
| | Adj. & Fluoridation Profile (1 page) |
| 5.0 | WPOS Water Quality (4-year Summary) (1 page) |
| 6.0 | Algae Count (1 page) |
| 7.0 | Bacteriological Testing (3 pages) |
| 8.0 | Alert Levels (Distribution System) (1 page) |
| 8.1 | Alert Levels (Treated Water at Plant) (1 page) |

TABLE 1.0: FLOWS (ML/d)

| | | 1986 | | | 1985 | | | 1984 | | | 1983 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. |
| JAN | R | 6.13 | 5.06 | 5.50 | 6.92 | 5.24 | 6.00 | 5.90 | 4.08 | 4.87 | | | |
| | T | 5.52 | 4.59 | 4.97 | 6.49 | 4.35 | 5.04 | 5.18 | 3.95 | 4.52 | | | |
| FEB | R | 6.65 | 4.90 | 6.00 | 6.65 | 5.60 | 6.20 | 5.58 | 4.21 | 4.88 | | | |
| | T | 6.35 | 4.71 | 5.43 | 5.55 | 4.55 | 4.96 | 5.06 | 4.04 | 4.39 | | | |
| MAR | R | 7.05 | 5.25 | 6.02 | 7.01 | 4.97 | 5.95 | 5.83 | 3.94 | 4.92 | | | |
| | T | 6.45 | 4.73 | 5.54 | 5.50 | 4.35 | 4.75 | 5.10 | 3.80 | 4.32 | | | |
| APR | R | 6.68 | 4.85 | 5.53 | 7.85 | 5.50 | 6.45 | 5.09 | 3.75 | 4.42 | | | |
| | T | 6.00 | 4.54 | 5.08 | 6.30 | 4.37 | 5.16 | 4.98 | 3.72 | 4.33 | | | |
| MAY | R | 8.54 | 5.38 | 6.54 | 12.70 | 5.84 | 8.22 | 5.83 | 4.27 | 4.98 | | | |
| | T | 8.65 | 4.93 | 6.08 | 11.30 | 5.45 | 7.31 | 5.88 | 4.28 | 4.94 | | | |
| JUN | R | 8.06 | 5.96 | 6.72 | 11.10 | 5.15 | 7.86 | 9.65 | 5.15 | 7.13 | | | |
| | T | 7.68 | 5.38 | 6.16 | 9.98 | 5.21 | 7.18 | 9.38 | 4.91 | 7.06 | | | |
| JUL | R | 11.40 | 5.11 | 7.90 | 12.30 | 6.19 | 8.76 | 14.80 | 5.98 | 10.24 | | | |
| | T | 11.00 | 5.55 | 7.79 | 11.50 | 5.95 | 8.08 | 13.67 | 5.92 | 9.74 | | | |
| AUG | R | 10.00 | 5.65 | 6.97 | 13.70 | 5.53 | 8.00 | 15.58 | 6.78 | 10.58 | | | |
| | T | 9.70 | 5.54 | 6.77 | 11.70 | 5.25 | 7.15 | 13.61 | 6.29 | 9.62 | | | |
| SEP | R | 8.60 | 5.17 | 6.62 | 9.23 | 5.26 | 7.73 | 10.60 | 6.12 | 8.01 | | | |
| | T | 7.84 | 5.16 | 6.30 | 8.35 | 6.08 | 7.16 | 9.90 | 5.09 | 7.53 | | | |
| OCT | R | 6.22 | 4.87 | 5.53 | 7.86 | 5.52 | 6.59 | 8.25 | 6.29 | 7.06 | | | |
| | T | 5.81 | 4.77 | 5.20 | 6.04 | 4.92 | 5.53 | 7.53 | 5.56 | 6.24 | | | |
| NOV | R | 6.37 | 4.56 | 5.42 | 7.34 | 5.72 | 6.24 | 7.41 | 5.02 | 6.40 | | | |
| | T | 5.81 | 4.16 | 5.10 | 6.06 | 4.81 | 5.20 | 6.97 | 4.31 | 5.77 | | | |
| DEC | R | 6.27 | 4.48 | 5.21 | 6.86 | 5.16 | 5.81 | 6.29 | 4.83 | 5.52 | | | |
| | T | 5.38 | 4.49 | 4.85 | 6.09 | 4.60 | 5.13 | 5.96 | 4.28 | 4.76 | | | |

WATER PLANT OPTIMIZATION STUDY
BELLE RIVER WATER SYSTEM

TABLE 1.1: DAILY FLOWS (ML/d) 1984

| DAY | JAN | | FEB | | MAR | | APR | | MAY | | JUN | | JUL | | AUG | | SEP | | OCT | | NOV | | DEC | | DAY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | R | T | R | T | R | T | R | T | R | T | R | T | R | T | R | T | R | T | R | T | R | T | R | T | |
| MON | | | | | | | | | | | | | | | | | | | 7.33 | 7.09 | | | | | MON |
| TUE | | | | | | | | | 4.27 | 4.29 | | | | | | | | | 7.56 | 7.06 | | | | | TUE |
| WED | | | 4.68 | 4.40 | | | | | 4.30 | 4.57 | | | | | 14.50 | 13.10 | | | 7.30 | 7.08 | | | | | WED |
| THU | | | 5.16 | 4.60 | 4.92 | 4.25 | | | 4.49 | 4.48 | | | | | 14.80 | 12.60 | | | 7.01 | 6.74 | 6.57 | 5.68 | | | THU |
| FRI | | | 5.29 | 5.06 | 5.06 | 4.10 | | | 4.93 | 4.46 | 5.21 | 4.94 | | | 9.05 | 7.63 | | | 8.25 | 7.53 | 6.69 | 5.76 | | | FRI |
| SAT | 4.77 | 4.65 | 4.35 | 4.46 | 5.29 | 4.51 | | | 4.40 | 5.16 | 5.55 | 5.54 | | | 7.58 | 6.29 | 6.60 | 6.90 | 7.85 | 7.29 | 6.20 | 5.76 | 5.75 | 4.81 | SAT |
| SUN | 5.00 | 4.65 | 4.65 | 4.15 | 4.67 | 4.08 | 3.95 | 4.06 | 4.61 | 4.75 | 5.74 | 5.62 | 11.10 | 10.70 | 7.66 | 7.21 | 6.70 | 6.60 | 7.26 | 6.42 | 6.17 | 5.69 | 5.51 | 4.58 | SUN |
| MON | 4.65 | 4.52 | 4.97 | 4.69 | 5.20 | 4.56 | 4.10 | 4.14 | 5.33 | 5.05 | 5.99 | 5.89 | 10.40 | 10.70 | 10.70 | 9.33 | 9.10 | 7.60 | 6.99 | 6.49 | 6.56 | 5.71 | 5.97 | 4.95 | MON |
| TUE | 4.56 | 4.37 | 4.85 | 4.37 | 5.04 | 4.15 | 3.94 | 3.85 | 4.87 | 4.83 | 5.15 | 4.91 | 10.80 | 10.50 | 10.30 | 9.28 | 7.60 | 7.30 | 7.35 | 6.90 | 6.52 | 5.76 | 5.92 | 4.28 | TUE |
| WED | 4.70 | 4.43 | 4.37 | 4.27 | 5.00 | 4.28 | 3.75 | 3.72 | 4.43 | 4.77 | 5.48 | 5.67 | 8.84 | 8.65 | 8.48 | 7.55 | 7.80 | 7.70 | 7.07 | 6.63 | 6.84 | 6.05 | 5.85 | 4.88 | WED |
| THU | 4.56 | 4.32 | 4.21 | 4.33 | 4.96 | 4.10 | 4.14 | 4.14 | 5.38 | 5.20 | 5.91 | 5.78 | 6.43 | 6.51 | 6.15 | 7.66 | 7.78 | 7.37 | 7.44 | 6.69 | 7.25 | 6.27 | 5.73 | 4.60 | THU |
| FRI | 5.00 | 4.30 | 4.70 | 4.04 | 4.98 | 4.44 | 4.53 | 4.25 | 5.35 | 5.67 | 6.76 | 6.03 | 5.98 | 5.92 | 9.11 | 7.60 | 7.07 | 7.38 | 7.16 | 6.40 | 7.35 | 6.64 | 5.43 | 4.88 | FRI |
| SAT | 4.50 | 4.10 | 5.04 | 4.76 | 4.76 | 4.36 | 4.61 | 4.28 | 5.83 | 5.34 | 6.16 | 9.38 | 6.66 | 6.89 | 10.20 | 9.24 | 7.70 | 7.42 | 6.49 | 5.89 | 6.45 | 5.68 | 4.97 | 4.71 | SAT |
| SUN | 4.46 | 4.26 | 5.00 | 4.74 | 4.67 | 4.36 | 4.50 | 4.40 | 4.88 | 4.49 | 6.03 | 9.08 | 8.28 | 8.01 | 11.01 | 10.40 | 6.12 | 6.22 | 6.29 | 5.78 | 6.36 | 5.79 | 5.16 | 4.92 | SUN |
| MON | 4.87 | 4.75 | 5.58 | 4.56 | 4.76 | 4.39 | 4.35 | 4.22 | 5.60 | 5.35 | 6.33 | 8.14 | 6.94 | 7.29 | 12.30 | 11.40 | 7.88 | 7.71 | 6.56 | 5.73 | 5.85 | 5.47 | 4.83 | 4.39 | MON |
| TUE | 4.78 | 4.38 | 4.67 | 4.50 | 4.83 | 4.46 | 4.20 | 4.37 | 5.49 | 4.59 | 9.65 | 9.17 | 9.52 | 9.60 | 12.80 | 12.20 | 6.48 | 5.09 | 6.50 | 5.56 | 7.41 | 6.62 | 5.47 | 4.26 | TUE |
| WED | 4.06 | 4.45 | 5.27 | 4.43 | 4.76 | 4.36 | 3.87 | 4.14 | 4.45 | 4.76 | 7.57 | 7.48 | 7.08 | 6.43 | 14.05 | 12.70 | 7.52 | 7.36 | 6.54 | 5.70 | 6.46 | 5.90 | 5.18 | 4.62 | WED |
| THU | 4.74 | 4.41 | 4.75 | 4.17 | 4.82 | 4.45 | 4.16 | 4.16 | 5.15 | 4.94 | 6.35 | 6.23 | 7.74 | 7.22 | 14.01 | 13.15 | 8.16 | 7.60 | 7.22 | 6.19 | 6.13 | 5.80 | 5.55 | 4.62 | THU |
| FRI | 4.16 | 4.57 | 4.92 | 4.21 | 5.62 | 4.91 | 4.98 | 4.35 | 5.71 | 4.88 | 6.59 | 6.41 | 9.81 | 9.41 | 15.58 | 13.61 | 8.34 | 7.36 | 7.12 | 5.79 | 6.52 | 5.61 | 5.28 | 4.93 | FRI |
| SAT | 4.54 | 4.26 | 4.95 | 4.49 | 5.00 | 4.29 | 4.00 | 4.24 | 5.67 | 5.17 | 7.49 | 7.31 | 11.20 | 11.10 | 10.20 | 8.75 | 7.14 | 7.05 | 6.88 | 5.96 | 6.62 | 6.05 | 5.22 | 4.74 | SAT |
| SUN | 5.35 | 4.94 | 4.70 | 4.09 | 4.97 | 4.26 | 3.90 | 4.14 | 4.35 | 4.28 | 6.27 | 6.28 | 11.50 | 10.40 | 6.78 | 6.59 | 7.65 | 7.49 | 6.50 | 5.82 | 5.75 | 5.40 | 5.25 | 4.73 | SUN |
| MON | 5.18 | 4.76 | 4.66 | 4.33 | 5.83 | 5.10 | 4.56 | 4.98 | 5.63 | 5.53 | 6.27 | 5.85 | 13.10 | 11.70 | 8.08 | 7.55 | 8.45 | 7.43 | 7.05 | 5.90 | 6.39 | 5.10 | 5.48 | 4.61 | MON |
| TUE | 4.78 | 3.95 | 4.96 | 4.25 | 5.42 | 4.65 | 4.37 | 4.22 | 4.74 | 4.75 | 6.30 | 6.63 | 8.20 | 7.61 | 9.43 | 9.04 | 9.75 | 9.60 | 6.84 | 5.76 | 7.16 | 5.45 | 5.39 | 4.50 | TUE |
| WED | 4.79 | 4.38 | 4.80 | 4.39 | 5.73 | 4.72 | 4.33 | 4.29 | 4.43 | 4.63 | 7.00 | 6.83 | 8.27 | 8.14 | 10.09 | 9.20 | 9.37 | 8.79 | 6.32 | 5.78 | 6.98 | 6.97 | 4.96 | 4.41 | WED |
| THU | 5.90 | 5.15 | 5.00 | 4.11 | 5.03 | 4.32 | 4.67 | 4.01 | 5.80 | 5.80 | 7.80 | 7.50 | 10.10 | 9.55 | 9.94 | 8.65 | 9.91 | 9.25 | 6.99 | 5.82 | 7.40 | 6.70 | 5.36 | 4.78 | THU |
| FRI | 5.75 | 5.18 | 5.00 | 4.31 | 4.99 | 4.40 | 4.65 | 4.58 | 4.41 | 4.62 | 7.58 | 7.76 | 10.00 | 9.07 | 10.24 | 9.55 | 10.20 | 9.42 | 7.60 | 5.98 | 6.70 | 5.84 | 5.73 | 4.80 | FRI |
| SAT | 5.07 | 4.63 | 5.04 | 4.43 | 5.76 | 4.23 | 4.56 | 4.72 | 5.20 | 5.30 | 7.67 | 7.48 | 14.50 | 13.10 | 11.25 | 11.25 | 10.60 | 9.90 | 8.05 | 6.50 | 6.45 | 5.50 | 5.67 | 5.02 | SAT |
| SUN | 5.75 | 5.16 | 5.04 | 4.31 | 4.75 | 4.15 | 4.20 | 3.96 | 4.52 | 5.06 | 6.58 | 6.43 | 14.58 | 13.67 | 11.80 | 10.90 | 8.35 | 7.91 | 6.99 | 5.70 | 6.16 | 5.44 | 5.42 | 4.47 | SUN |
| MON | 5.10 | 4.50 | 5.25 | 4.11 | 4.64 | 4.02 | 4.77 | 4.26 | 4.77 | 4.59 | 8.14 | 7.63 | 14.00 | 12.70 | 12.98 | 12.31 | 8.75 | 8.20 | 7.12 | 6.03 | 5.62 | 4.75 | 6.29 | 5.40 | MON |
| TUE | 4.40 | 4.20 | 5.10 | 4.36 | 4.42 | 3.80 | 5.00 | 4.33 | 5.53 | 5.51 | 8.28 | 8.00 | 13.40 | 12.50 | 9.94 | 9.52 | 8.11 | 7.19 | 6.68 | 5.75 | 5.20 | 4.67 | 5.01 | 4.63 | TUE |
| WED | 5.13 | 4.24 | 4.49 | 4.43 | 3.94 | 3.83 | 4.91 | 4.68 | 4.82 | 4.71 | 6.79 | 6.61 | 13.30 | 12.70 | 9.95 | 8.51 | 7.59 | 6.88 | 6.57 | 5.56 | 5.02 | 4.31 | 5.35 | 4.76 | WED |
| THU | 4.76 | 4.70 | | | 4.25 | 4.12 | 4.46 | 4.71 | 5.01 | 4.70 | 9.12 | 9.10 | 8.02 | 7.49 | 6.50 | 7.15 | 7.61 | 7.30 | | | 5.32 | 5.87 | 5.73 | 4.76 | THU |
| FRI | 4.79 | 4.70 | | | 4.29 | 4.16 | 5.09 | 4.77 | | | 6.42 | 6.62 | 7.68 | 7.46 | 8.51 | 8.34 | 7.75 | 7.20 | | | 5.80 | 4.48 | 5.80 | 5.16 | FRI |
| SAT | 4.75 | 4.10 | | | 4.25 | 4.13 | 5.09 | 4.80 | | | 9.57 | 9.38 | 9.96 | 9.74 | | | 7.45 | 6.77 | | | | | 5.77 | 4.77 | SAT |
| SUN | 4.82 | 4.52 | | | | | 4.49 | 4.52 | | | | | 12.20 | 11.30 | | | 6.70 | 6.13 | | | | | 5.68 | 4.70 | SUN |
| MON | 4.76 | 4.56 | | | | | 4.44 | 4.57 | | | | | 13.10 | 12.40 | | | | | | | | | 6.24 | 5.96 | MON |
| TUE | | | | | | | | | | | | | 14.80 | 13.30 | | | | | | | | | | | TUE |

TABLE 1.1: DAILY FLOWS (ML/d) 1985

| DAY | JAN | | FEB | | MAR | | APR | | MAY | | JUN | | JUL | | AUG | | SEP | | OCT | | NOV | | DEC | | DAY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | R | T | R | T | R | T | R | T | R | T | R | T | R | T | R | T | R | T | R | T | R | T | R | T | |
| MON | | | | | | | 6.42 | 4.46 | | | | | 7.47 | 6.47 | | | | | | | | | | | MON |
| TUE | 5.49 | 4.51 | | | | | 5.50 | 4.78 | | | | | 6.19 | 7.02 | | | | | 7.86 | 5.98 | | | | | TUE |
| WED | 5.73 | 4.44 | | | | | 6.21 | 4.55 | 6.25 | 5.45 | | | 6.40 | 5.95 | | | | | 7.06 | 5.71 | | | | | WED |
| THU | 5.44 | 4.35 | | | | | 5.89 | 4.77 | 7.10 | 6.04 | | | 7.12 | 6.51 | 8.90 | 8.40 | | | 7.45 | 6.04 | | | | | THU |
| FRI | 5.43 | 4.77 | 6.23 | 5.17 | 6.00 | 4.97 | 6.29 | 4.80 | 7.77 | 7.06 | | | 6.90 | 6.38 | 12.00 | 10.50 | | | 7.18 | 5.64 | 6.07 | 5.40 | | | FRI |
| SAT | 5.80 | 4.84 | 5.85 | 4.75 | 5.80 | 5.18 | 6.37 | 4.97 | 7.51 | 7.00 | 6.41 | 7.16 | 6.32 | 6.10 | 12.10 | 11.20 | | | 6.58 | 5.51 | 5.91 | 5.21 | | | SAT |
| SUN | 5.24 | 4.72 | 5.65 | 4.90 | 5.40 | 4.63 | 5.90 | 4.37 | 6.79 | 6.30 | 6.90 | 6.44 | 7.00 | 6.43 | 13.70 | 11.70 | 6.71 | 6.44 | 6.50 | 5.58 | 5.88 | 4.92 | 5.51 | 5.23 | SUN |
| MON | 6.25 | 5.50 | 6.29 | 5.20 | 5.80 | 4.82 | 6.29 | 5.25 | 6.12 | 5.68 | 7.14 | 6.13 | 9.45 | 8.70 | 9.21 | 8.22 | 8.62 | 7.95 | 7.12 | 5.83 | 5.93 | 5.51 | 5.36 | 4.79 | MON |
| TUE | 5.54 | 4.64 | 6.42 | 5.10 | 5.26 | 5.03 | 5.85 | 4.57 | 7.15 | 6.42 | 7.16 | 6.38 | 9.75 | 8.64 | 9.35 | 7.64 | 9.05 | 8.21 | 6.61 | 5.97 | 6.28 | 5.35 | 5.16 | 5.01 | TUE |
| WED | 5.41 | 4.65 | 6.15 | 4.55 | 4.97 | 4.69 | 5.96 | 4.65 | 7.83 | 7.07 | 8.11 | 7.34 | 8.10 | 7.83 | 8.18 | 6.47 | 8.33 | 8.04 | 7.72 | 6.01 | 6.36 | 4.99 | 5.39 | 4.90 | WED |
| THU | 5.34 | 4.62 | 6.37 | 4.89 | 6.27 | 4.45 | 6.10 | 4.81 | 8.30 | 7.46 | 8.62 | 7.38 | 8.44 | 7.41 | 8.86 | 7.44 | 8.61 | 8.35 | 7.38 | 5.48 | 6.25 | 5.08 | 5.34 | 4.63 | THU |
| FRI | 5.92 | 5.16 | 6.48 | 4.88 | 6.11 | 4.83 | 6.03 | 4.96 | 9.88 | 8.65 | 9.85 | 8.65 | 9.75 | 9.65 | 10.60 | 9.26 | 9.19 | 7.72 | 6.37 | 5.92 | 5.89 | 5.62 | 5.60 | 5.05 | FRI |
| SAT | 5.62 | 4.95 | 6.65 | 5.41 | 6.58 | 5.01 | 5.88 | 5.13 | 10.30 | 9.68 | 11.10 | 9.79 | 11.90 | 10.40 | 9.00 | 8.00 | 7.78 | 7.75 | 6.21 | 5.44 | 6.56 | 5.07 | 5.93 | 4.71 | SAT |
| SUN | 5.91 | 6.14 | 6.47 | 5.55 | 5.43 | 4.76 | 5.73 | 4.69 | 10.50 | 9.80 | 9.77 | 8.71 | 7.16 | 6.81 | 8.40 | 7.35 | 6.55 | 6.15 | 5.81 | 5.56 | 6.37 | 5.28 | 5.41 | 4.77 | SUN |
| MON | 5.92 | 5.31 | 6.29 | 4.94 | 6.08 | 4.87 | 6.73 | 5.18 | 12.00 | 10.70 | 10.70 | 9.43 | 6.59 | 6.01 | 7.47 | 7.24 | 7.52 | 7.25 | 6.39 | 5.17 | 5.74 | 4.90 | 5.68 | 4.91 | MON |
| TUE | 6.21 | 4.78 | 6.14 | 4.86 | 6.10 | 4.49 | 6.29 | 4.78 | 10.20 | 9.16 | 6.40 | 5.62 | 7.10 | 6.00 | 6.83 | 5.80 | 7.42 | 6.86 | 6.89 | 5.75 | 6.47 | 5.37 | 5.89 | 4.80 | TUE |
| WED | 5.78 | 4.66 | 5.90 | 4.81 | 5.60 | 4.63 | 6.57 | 4.85 | 7.96 | 7.27 | 5.71 | 5.57 | 7.61 | 7.00 | 6.76 | 5.90 | 7.60 | 6.82 | 6.62 | 5.89 | 6.78 | 5.33 | 5.99 | 4.72 | WED |
| THU | 5.82 | 4.64 | 5.60 | 4.62 | 6.09 | 4.60 | 6.73 | 5.22 | 6.52 | 5.87 | 5.71 | 5.35 | 9.14 | 8.16 | 7.49 | 6.30 | 7.23 | 6.73 | 5.93 | 5.15 | 7.34 | 6.06 | 5.90 | 4.84 | THU |
| FRI | 6.33 | 5.03 | 6.20 | 4.94 | 6.24 | 4.51 | 6.61 | 5.36 | 7.01 | 6.05 | 6.45 | 6.25 | 8.10 | 7.24 | 7.41 | 6.00 | 7.70 | 7.75 | 6.76 | 5.74 | 6.95 | 5.40 | 5.81 | 4.98 | FRI |
| SAT | 6.54 | 5.22 | 6.50 | 5.00 | 6.09 | 4.97 | 6.72 | 5.70 | 5.84 | 5.49 | 6.00 | 5.64 | 11.00 | 9.86 | 6.01 | 5.74 | 7.07 | 6.25 | 5.78 | 5.02 | 6.08 | 5.27 | 5.50 | 4.60 | SAT |
| SUN | 6.40 | 5.21 | 5.81 | 4.55 | 5.39 | 4.35 | 7.19 | 5.83 | 7.13 | 6.34 | 5.15 | 5.21 | 8.69 | 8.23 | 5.53 | 5.25 | 6.51 | 6.25 | 5.52 | 5.18 | 6.10 | 5.10 | 5.46 | 5.53 | SUN |
| MON | 6.87 | 5.44 | 6.34 | 5.04 | 6.11 | 4.90 | 7.85 | 6.30 | 6.27 | 5.97 | 5.86 | 5.68 | 9.43 | 8.17 | 6.38 | 5.98 | 7.38 | 7.11 | 6.54 | 5.76 | 6.76 | 5.27 | 5.64 | 4.93 | MON |
| TUE | 6.92 | 5.66 | 6.45 | 5.24 | 7.01 | 5.50 | 7.45 | 5.65 | 7.82 | 6.55 | 6.70 | 5.57 | 10.70 | 10.20 | 5.93 | 5.75 | 8.05 | 7.62 | 6.17 | 5.10 | 6.24 | 4.90 | 5.72 | 4.81 | TUE |
| WED | 6.29 | 5.13 | 6.18 | 4.87 | 5.61 | 4.43 | 6.42 | 5.04 | 7.50 | 6.14 | 5.66 | 5.39 | 11.20 | 10.80 | 6.27 | 5.70 | 8.14 | 7.76 | 6.08 | 5.35 | 5.72 | 4.87 | 5.66 | 5.10 | WED |
| THU | 6.03 | 5.05 | 6.09 | 4.55 | 6.00 | 4.60 | 7.02 | 5.64 | 9.30 | 8.16 | 6.35 | 6.05 | 12.30 | 11.50 | 6.01 | 5.46 | 8.15 | 7.68 | 6.60 | 5.27 | 6.23 | 5.14 | 5.68 | 5.13 | THU |
| FRI | 6.25 | 5.06 | 6.37 | 5.08 | 6.30 | 4.50 | 7.25 | 5.90 | 11.40 | 9.74 | 7.51 | 6.20 | 9.32 | 8.60 | 8.25 | 7.76 | 9.23 | 8.28 | 7.08 | 5.58 | 6.68 | 5.14 | 6.14 | 5.17 | FRI |
| SAT | 6.26 | 5.52 | 6.60 | 5.18 | 5.96 | 4.90 | 6.35 | 5.24 | 12.70 | 11.30 | 7.11 | 6.14 | 9.35 | 9.07 | 5.91 | 5.35 | 7.51 | 6.85 | 6.96 | 5.12 | 5.85 | 5.30 | 6.00 | 5.43 | SAT |
| SUN | 6.14 | 6.49 | 6.58 | 4.95 | 5.91 | 4.62 | 6.24 | 5.30 | 11.30 | 10.10 | 7.83 | 6.99 | 10.30 | 9.61 | 6.00 | 5.56 | 7.62 | 7.30 | 6.68 | 5.46 | 6.16 | 5.17 | 5.58 | 5.03 | SUN |
| MON | 6.60 | 4.89 | 6.26 | 5.27 | 6.18 | 4.92 | 6.80 | 5.87 | 8.44 | 6.85 | 8.50 | 8.06 | 12.00 | 10.90 | 7.49 | 6.80 | 8.25 | 7.51 | 6.78 | 5.52 | 6.29 | 5.22 | 6.01 | 5.26 | MON |
| TUE | 6.06 | 5.04 | 6.17 | 4.95 | 6.34 | 4.41 | 6.80 | 6.10 | 7.52 | 6.35 | 8.63 | 7.84 | 9.30 | 8.30 | 7.70 | 7.05 | 8.00 | 6.93 | 6.28 | 5.62 | 6.42 | 5.19 | 6.86 | 6.05 | TUE |
| WED | 6.48 | 4.96 | 5.64 | 4.83 | 5.90 | 4.95 | | | 7.05 | 6.18 | 9.41 | 8.23 | 7.50 | 6.60 | 7.40 | 6.80 | 5.26 | 6.86 | 5.67 | 5.20 | 6.27 | 4.81 | 5.82 | 4.98 | WED |
| THU | 5.98 | 4.74 | 5.82 | 4.67 | 5.68 | 4.58 | | | 6.55 | 5.76 | 9.10 | 8.88 | | | 7.90 | 7.32 | 7.19 | 6.21 | 5.67 | 4.92 | 5.80 | 5.09 | 5.60 | 5.06 | THU |
| FRI | | | | | 6.70 | 4.68 | | | 6.68 | 5.87 | 10.70 | 9.71 | | | 7.87 | 7.07 | 8.04 | 7.10 | | | 5.89 | 5.13 | 6.59 | 6.00 | FRI |
| SAT | | | | | 5.78 | 4.41 | | | | | 10.50 | 9.60 | | | 7.08 | 6.29 | 7.94 | 6.36 | | | 5.97 | 5.04 | 6.00 | 5.60 | SAT |
| SUN | | | | | 5.62 | 5.00 | | | | | 10.40 | 9.98 | | | | | 7.05 | 6.08 | | | | | 5.96 | 5.20 | SUN |
| MON | | | | | | | | | | | | | | | | | 8.16 | 6.57 | | | | | 6.13 | 5.69 | MON |
| TUE | | | | | | | | | | | | | | | | | | | | | | | 6.67 | 6.09 | TUE |

TABLE 1.1: DAILY FLOWS (ML/d) 1986

| DAY | JAN | | FEB | | MAR | | APR | | MAY | | JUN | | JUL | | AUG | | SEP | | OCT | | NOV | | DEC | | DAY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | R | T | R | T | R | T | R | T | R | T | R | T | R | T | R | T | R | T | R | T | R | T | R | T | |
| MON | | | | | | | | | | | | | | | | | 8.44 | 7.77 | | | | | 5.27 | 5.38 | MON |
| TUE | | | | | | | 5.36 | 5.33 | | | | | 5.69 | 5.77 | | | 7.69 | 7.16 | | | | | 4.56 | 4.58 | TUE |
| WED | 5.26 | 4.76 | | | | | 5.24 | 4.55 | | | | | 5.88 | 5.96 | | | 7.82 | 7.09 | 5.48 | 5.26 | | | 4.67 | 4.63 | WED |
| THU | 5.30 | 5.17 | | | | | 5.16 | 4.92 | 5.79 | 5.30 | | | 6.36 | 6.41 | | | 8.01 | 7.37 | 4.87 | 5.03 | | | 5.14 | 4.88 | THU |
| FRI | 5.57 | 5.52 | | | | | 5.43 | 4.69 | 5.81 | 5.15 | | | 7.85 | 7.85 | 10.00 | 9.70 | 8.60 | 7.84 | 5.54 | 5.01 | | | 5.30 | 5.08 | FRI |
| SAT | 5.65 | 4.99 | 5.80 | 4.89 | 6.99 | 6.35 | 4.45 | 5.16 | 6.14 | 5.30 | | | 9.51 | 9.47 | 7.98 | 7.47 | 8.60 | 7.57 | 5.91 | 5.81 | 5.45 | 4.86 | 5.27 | 4.93 | SAT |
| SUN | 5.38 | 5.14 | 6.25 | 4.90 | 6.24 | 5.88 | 5.21 | 5.01 | 5.38 | 5.55 | 7.44 | 6.75 | 9.90 | 9.81 | 6.54 | 6.19 | 7.95 | 7.66 | 4.96 | 4.95 | 5.38 | 5.08 | 5.63 | 5.38 | SUN |
| MON | 5.73 | 5.25 | 5.35 | 4.79 | 6.63 | 5.98 | 5.92 | 5.26 | 5.89 | 5.95 | 6.05 | 5.91 | 10.80 | 10.30 | 7.75 | 7.70 | 7.67 | 7.20 | 6.10 | 5.74 | 5.31 | 5.07 | 5.34 | 4.97 | MON |
| TUE | 5.92 | 5.31 | 5.13 | 4.71 | 6.34 | 5.88 | 5.45 | 4.67 | 5.77 | 5.09 | 7.08 | 6.49 | 6.25 | 6.21 | 7.86 | 7.93 | 8.06 | 7.65 | 5.46 | 5.18 | 5.37 | 5.13 | 4.92 | 4.61 | TUE |
| WED | 5.29 | 4.63 | 5.48 | 4.81 | 6.62 | 5.90 | 5.27 | 4.85 | 5.61 | 5.66 | 7.73 | 6.79 | 6.64 | 5.99 | 6.78 | 6.61 | 7.69 | 6.81 | 5.50 | 5.19 | 6.37 | 5.60 | 5.25 | 4.71 | WED |
| THU | 5.50 | 4.78 | 5.77 | 5.17 | 8.29 | 5.52 | 5.11 | 4.93 | 5.95 | 5.37 | 6.21 | 5.49 | 5.66 | 5.55 | 6.45 | 5.69 | 6.71 | 5.73 | 5.27 | 5.10 | 5.28 | 5.10 | 5.05 | 4.67 | THU |
| FRI | 5.40 | 4.91 | 5.62 | 4.80 | 6.40 | 6.30 | 5.47 | 4.92 | 6.00 | 6.05 | 6.85 | 5.38 | 5.11 | 5.78 | 6.11 | 6.01 | 5.86 | 5.45 | 5.52 | 5.55 | 5.68 | 4.98 | 5.35 | 5.09 | FRI |
| SAT | 5.22 | 5.07 | 5.45 | 5.18 | 6.33 | 6.05 | 5.70 | 5.26 | 7.45 | 7.14 | 6.30 | 6.09 | 5.57 | 5.78 | 6.37 | 5.85 | 7.24 | 6.72 | 5.95 | 5.63 | 5.30 | 5.68 | 4.92 | 4.87 | SAT |
| SUN | 5.21 | 4.59 | 5.47 | 4.90 | 6.44 | 6.04 | 5.32 | 5.13 | 7.20 | 7.09 | 6.53 | 6.38 | 5.53 | 5.72 | 5.65 | 5.54 | 5.95 | 5.65 | 5.31 | 5.24 | 5.70 | 5.17 | 4.95 | 4.82 | SUN |
| MON | 5.76 | 4.99 | 5.90 | 4.90 | 7.05 | 6.45 | 5.35 | 5.52 | 7.64 | 7.00 | 7.03 | 5.90 | 6.77 | 6.32 | 6.30 | 5.93 | 6.37 | 6.27 | 5.52 | 5.61 | 5.77 | 5.41 | 5.31 | 4.80 | MON |
| TUE | 5.25 | 4.90 | 5.34 | 4.78 | 6.30 | 6.00 | 5.17 | 4.54 | 6.12 | 7.38 | 6.16 | 5.41 | 6.14 | 6.56 | 8.02 | 6.14 | 5.82 | 5.73 | 5.97 | 5.24 | 4.56 | 4.16 | 4.97 | 4.83 | TUE |
| WED | 5.18 | 4.80 | 4.90 | 4.90 | 6.42 | 6.38 | 5.64 | 5.09 | 7.89 | 7.10 | 6.17 | 5.47 | 5.97 | 5.82 | 6.37 | 6.10 | 6.05 | 6.17 | 5.52 | 5.19 | 6.00 | 5.54 | 4.48 | 4.58 | WED |
| THU | 5.69 | 5.00 | 5.43 | 4.96 | 6.31 | 5.90 | 5.56 | 4.97 | 6.71 | 6.47 | 6.02 | 5.45 | 7.16 | 7.25 | 6.27 | 6.29 | 5.50 | 5.61 | 5.45 | 4.86 | 5.63 | 5.31 | 4.99 | 4.75 | THU |
| FRI | 5.86 | 5.00 | 6.57 | 5.70 | 8.59 | 6.13 | 5.63 | 4.75 | 6.40 | 6.05 | 6.36 | 5.49 | 6.00 | 6.01 | 6.83 | 6.71 | 6.01 | 6.10 | 5.73 | 5.09 | 5.37 | 4.97 | 5.60 | 4.77 | FRI |
| SAT | 5.97 | 5.44 | 6.55 | 5.95 | 6.50 | 5.45 | 6.17 | 5.69 | 7.61 | 7.25 | 6.77 | 6.24 | 7.77 | 7.98 | 6.20 | 6.59 | 6.77 | 6.34 | 5.21 | 4.77 | 5.71 | 5.08 | 5.16 | 4.67 | SAT |
| SUN | 5.37 | 4.84 | 6.10 | 5.62 | 5.25 | 6.97 | 5.27 | 4.70 | 6.00 | 5.33 | 6.42 | 5.70 | 7.14 | 7.45 | 6.62 | 6.71 | 6.55 | 6.60 | 5.70 | 5.54 | 5.32 | 4.86 | 5.22 | 4.78 | SUN |
| MON | 5.59 | 4.80 | 6.53 | 6.04 | 5.25 | 5.14 | 5.83 | 4.96 | 6.05 | 5.59 | 7.60 | 6.26 | 6.63 | 8.20 | 7.46 | 7.15 | 5.60 | 5.38 | 5.57 | 5.29 | 5.64 | 5.29 | 5.68 | 4.76 | MON |
| TUE | 5.28 | 4.82 | 5.93 | 5.66 | 5.58 | 4.77 | 5.24 | 4.86 | 5.86 | 5.05 | 7.29 | 6.17 | 9.27 | 8.70 | 7.30 | 7.26 | 5.35 | 5.25 | 6.12 | 4.85 | 5.95 | 5.15 | 5.36 | 4.87 | TUE |
| WED | 5.61 | 4.91 | 6.45 | 5.93 | 5.48 | 5.02 | 5.18 | 5.26 | 5.85 | 5.19 | 8.06 | 8.26 | 9.85 | 9.15 | 7.82 | 7.84 | 5.49 | 5.48 | 5.18 | 5.28 | 5.06 | 5.20 | 5.57 | 5.37 | WED |
| THU | 5.45 | 4.86 | 6.23 | 5.62 | 5.89 | 4.99 | 5.47 | 4.77 | 5.90 | 5.16 | 6.05 | 5.41 | 9.88 | 9.62 | 7.75 | 7.77 | 5.56 | 5.16 | 6.22 | 4.77 | 5.31 | 5.23 | 5.07 | 4.72 | THU |
| FRI | 5.59 | 4.73 | 6.48 | 5.79 | 5.74 | 5.16 | 5.80 | 5.20 | 6.10 | 4.97 | 6.90 | 5.89 | 6.83 | 6.63 | 8.03 | 7.95 | 5.69 | 5.39 | 5.20 | 5.44 | 4.82 | 4.67 | 5.05 | 4.60 | FRI |
| SAT | 5.06 | 4.70 | 6.65 | 5.98 | 5.66 | 5.25 | 5.79 | 5.44 | 7.23 | 6.44 | 6.89 | 6.36 | 9.25 | 8.98 | 6.50 | 6.79 | 5.17 | 5.37 | 5.37 | 4.84 | 5.17 | 5.10 | 5.25 | 4.70 | SAT |
| SUN | 5.12 | 4.96 | 6.35 | 5.85 | 5.73 | 5.12 | 6.16 | 5.79 | 5.76 | 5.70 | 6.09 | 6.41 | 10.30 | 9.70 | 7.31 | 7.42 | 5.43 | 5.59 | 5.14 | 5.15 | 4.83 | 5.39 | 4.65 | 4.49 | SUN |
| MON | 6.13 | 5.15 | 6.49 | 5.93 | 5.80 | 5.21 | 6.68 | 6.00 | 6.34 | 6.72 | 6.53 | 6.57 | 10.40 | 9.90 | 7.21 | 7.15 | 5.52 | 5.46 | 5.64 | 4.98 | 5.10 | 4.43 | 5.39 | 4.75 | MON |
| TUE | 5.45 | 4.94 | 6.65 | 5.99 | 5.75 | 5.04 | 6.06 | 5.20 | 6.28 | 4.93 | 5.96 | 5.95 | 9.38 | 9.15 | 6.35 | 5.84 | 5.55 | 5.40 | 5.09 | 5.27 | 5.49 | 5.02 | 5.62 | 4.94 | TUE |
| WED | 5.57 | 4.90 | 5.95 | 5.83 | 5.69 | 4.94 | 5.27 | 4.83 | 6.28 | 6.05 | 6.56 | 6.82 | 11.00 | 10.50 | 6.29 | 5.65 | | | 5.15 | 4.80 | 5.09 | 4.47 | 5.60 | 5.02 | WED |
| THU | 5.48 | 4.81 | 6.62 | 5.82 | 5.57 | 4.94 | | | 6.85 | 6.31 | 6.24 | 6.37 | 11.40 | 11.00 | 5.67 | 5.54 | | | 5.35 | 5.04 | 5.88 | 5.14 | | | THU |
| FRI | 5.56 | 5.33 | 6.52 | 6.35 | 5.75 | 5.60 | | | 6.54 | 7.46 | 7.44 | 7.68 | | | 7.20 | 6.44 | | | 5.63 | 5.41 | 5.72 | 5.44 | | | FRI |
| SAT | | | | | 5.72 | 5.42 | | | 6.50 | 6.65 | 7.95 | 7.34 | | | 7.81 | 6.73 | | | | | 5.27 | 4.95 | | | SAT |
| SUN | | | | | 5.39 | 4.73 | | | | | 6.60 | 6.31 | | | 7.35 | 6.90 | | | | | 5.00 | 4.61 | | | SUN |
| MON | | | | | 5.87 | 5.33 | | | | | 6.25 | 5.91 | | | | | | | | | | | | | MON |
| TUE | | | | | | | | | | | | | | | | | | | | | | | | | TUE |

TABLE 2.0: PARTICULATE REMOVAL SUMMARY

| | | | 1986 | | | 1985 | | | 1984 | | | 1983 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. |
| JAN | Turbidity (FTU) | R | 35.00 | 0.10 | 8.77 | 500.00 | 15.00 | 96.16 | 18.00 | 5.00 | 11.03 | | | |
| | | T | 0.60 | 0.60 | 0.60 | 0.20 | 0.20 | 0.20 | 0.18 | 0.18 | 0.18 | | | |
| | Prime Coagulant (mg/L) | | 42.40 | 13.90 | 28.73 | 207.00 | 15.70 | 62.17 | 51.60 | 24.10 | 34.87 | | | |
| | Coagulant Aid (mg/L) | | | | | | | | | | | | | |
| | Metal Res. Al (mg/L) | R | | | | | | | | | | | | |
| | | T | | | | | | | | | | | | |
| | pH | R | 7.90 | 7.50 | 7.84 | 8.00 | 7.60 | 7.81 | 7.80 | 7.50 | 7.67 | | | |
| | | T | 7.10 | 7.00 | 7.02 | 7.20 | 6.60 | 7.02 | 7.10 | 6.90 | 7.02 | | | |
| | Temperature (Deg.C.) | R | 2.00 | 1.00 | 1.50 | 4.00 | 0.00 | 0.80 | 4.00 | 1.00 | 1.90 | | | |
| FEB | Turbidity (FTU) | R | 350.00 | 0.10 | 32.65 | 130.00 | 2.00 | 21.86 | 70.00 | 2.00 | 17.52 | | | |
| | | T | 0.10 | 0.10 | 0.10 | 0.09 | 0.09 | 0.09 | 0.34 | 0.34 | 0.34 | | | |
| | Prime Coagulant (mg/L) | | 113.50 | 20.60 | 38.01 | 123.70 | 20.90 | 41.07 | 104.10 | 21.00 | 54.40 | | | |
| | Coagulant Aid (mg/L) | | | | | | | | | | | | | |
| | Metal Res. Al (mg/L) | R | | | | | | | | | | | | |
| | | T | | | | | | | | | | | | |
| | pH | R | 7.90 | 7.60 | 7.80 | 7.90 | 7.00 | 7.84 | 7.90 | 7.40 | 7.72 | | | |
| | | T | 7.10 | 6.70 | 0.50 | 7.10 | 6.60 | 7.05 | 7.40 | 6.60 | 6.93 | | | |
| | Temperature (Deg.C.) | R | 2.00 | 0.50 | 1.60 | 0.50 | 0.50 | 0.50 | 4.00 | 1.00 | 2.20 | | | |
| MAR | Turbidity (FTU) | R | 500.00 | 10.10 | 70.19 | 500.00 | 20.00 | 107.10 | 500.00 | 7.00 | 67.29 | | | |
| | | T | 0.25 | 0.04 | 0.08 | 1.15 | 1.15 | 1.15 | 0.06 | 0.01 | 0.03 | | | |
| | Prime Coagulant (mg/L) | | 170.50 | 32.10 | 69.82 | 160.00 | 34.30 | 74.43 | 152.90 | 24.50 | 78.03 | | | |
| | Coagulant Aid (mg/L) | | | | | | | | | | | | | |
| | Metal Res. Al (mg/L) | R | | | | | | | | | | | | |
| | pH | R | 7.90 | 7.40 | 7.72 | 8.00 | 6.90 | 7.65 | 7.90 | 7.20 | 7.70 | | | |
| | | T | 7.00 | 6.50 | 6.86 | 7.00 | 6.70 | 6.88 | 7.70 | 6.60 | 6.92 | | | |
| | Temperature (Deg.C.) | R | 7.00 | 0.50 | 3.10 | 6.00 | 0.50 | 1.10 | 1.00 | 0.50 | 0.55 | | | |

TABLE 2.0: PARTICULATE REMOVAL SUMMARY

| | | | 1986 | | | 1985 | | | 1984 | | | 1983 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. |
| APR | Turbidity (FTU) | R | 73.00 | 13.50 | 35.34 | 650.00 | 15.00 | 143.00 | 350.00 | 1.00 | 68.40 | | | |
| | | T | 0.65 | 0.03 | 0.08 | 0.61 | 0.61 | 0.61 | 0.08 | 0.04 | 0.05 | | | |
| | Prime Coagulant (mg/L) | | 94.00 | 41.50 | 61.20 | 185.20 | 17.40 | 90.52 | 122.80 | 21.40 | 52.10 | | | |
| | Coagulant Aid (mg/L) | | | | | | | | | | | | | |
| | Metal Res. Al (mg/L) | R | | | | | | | | | | | | |
| | | T | | | | | | | | | | | | |
| | pH | R | 7.90 | 7.70 | 7.87 | 8.10 | 7.80 | 7.90 | 8.20 | 7.70 | 7.95 | | | |
| | | T | 7.10 | 6.90 | 6.97 | 7.00 | 6.60 | 6.85 | 7.20 | 6.60 | 6.99 | | | |
| | Temperature (Deg.C.) | R | 12.00 | 6.00 | 9.40 | 12.00 | 2.00 | 7.00 | 14.00 | 1.00 | 6.50 | | | |
| MAY | Turbidity (FTU) | R | 75.00 | 8.20 | 21.04 | 70.00 | 1.00 | 27.68 | 175.00 | 1.00 | 43.74 | | | |
| | | T | 0.07 | 0.04 | 0.06 | 0.13 | 0.13 | 0.13 | 0.08 | 0.04 | 0.05 | | | |
| | Prime Coagulant (mg/L) | | 73.00 | 23.60 | 47.14 | 66.10 | 21.60 | 40.46 | 50.60 | 21.40 | 36.96 | | | |
| | Coagulant Aid (mg/L) | | | | | | | | | | | | | |
| | Metal Res. Al (mg/L) | R | | | | | | | | | | | | |
| | | T | | | | | | | | | | | | |
| | pH | R | 7.90 | 7.70 | 7.86 | 7.90 | 7.90 | 7.90 | 8.10 | 7.20 | 7.92 | | | |
| | | T | 7.00 | 6.80 | 6.89 | 7.00 | 6.90 | 6.97 | 7.10 | 6.80 | 7.00 | | | |
| | Temperature (Deg.C.) | R | 17.00 | 10.50 | 13.70 | 18.00 | 12.00 | 15.40 | 16.00 | 8.00 | 11.50 | | | |
| JUN | Turbidity (FTU) | R | 250.00 | 13.00 | 46.49 | 90.00 | 15.00 | 35.93 | 56.00 | 2.00 | 24.37 | | | |
| | | T | 0.65 | 0.04 | 0.09 | 0.06 | 0.06 | 0.06 | 0.08 | 0.02 | 0.05 | | | |
| | Prime Coagulant (mg/L) | | 142.60 | 16.90 | 66.17 | 74.00 | 6.02 | 41.39 | 55.10 | 18.70 | 30.65 | | | |
| | Coagulant Aid (mg/L) | | | | | | | | | | | | | |
| | Metal Res. Al (mg/L) | R | | | | | | | | | | | | |
| | | T | | | | | | | | | | | | |
| | pH | R | 8.10 | 6.90 | 7.71 | 8.00 | 7.00 | 7.88 | 8.10 | 7.40 | 7.85 | | | |
| | | T | 7.20 | 6.50 | 6.88 | 7.90 | 6.90 | 7.05 | 7.10 | 6.80 | 6.98 | | | |
| | Temperature (Deg.C.) | R | 21.00 | 16.00 | 18.70 | 21.00 | 15.00 | 18.10 | 22.00 | 13.00 | 17.80 | | | |

TABLE 2.0: PARTICULATE REMOVAL SUMMARY

| | | | 1986 | | | 1985 | | | 1984 | | | 1983 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. |
| JUL | Turbidity (FTU) | R | 41.00 | 10.30 | 26.66 | 60.00 | 5.00 | 24.71 | 60.00 | 5.00 | 25.71 | | | |
| | | T | 0.60 | 0.06 | 0.09 | 0.21 | 0.21 | 0.21 | 0.08 | 0.04 | 0.07 | | | |
| | Prime Coagulant (mg/L) | | 107.10 | 21.20 | 43.55 | 57.90 | 24.20 | 36.76 | 37.70 | 21.70 | 27.63 | | | |
| | Coagulant Aid (mg/L) | | | | | | | | | | | | | |
| | Metal Res. Al (mg/L) | R | | | | | | | | | | | | |
| | | T | | | | | | | | | | | | |
| | pH | R | 7.90 | 7.70 | 7.87 | 7.90 | 7.90 | 7.90 | 8.10 | 7.70 | 7.89 | | | |
| | | T | 7.00 | 6.70 | 6.92 | 7.00 | 7.00 | 7.00 | 7.30 | 6.90 | 7.05 | | | |
| | Temperature (Deg.C.) | R | 25.00 | 20.50 | 22.60 | 25.00 | 21.00 | 22.60 | 22.00 | 18.00 | 21.30 | | | |
| AUG | Turbidity (FTU) | R | 54.00 | 10.60 | 26.43 | 100.00 | 5.00 | 20.13 | 60.00 | 10.00 | 33.55 | | | |
| | | T | 0.11 | 0.07 | 0.09 | 0.08 | 0.08 | 0.08 | 0.34 | 0.34 | 0.34 | | | |
| | Prime Coagulant (mg/L) | | 61.90 | 30.70 | 44.10 | 64.80 | 17.00 | 39.02 | 45.08 | 20.40 | 31.85 | | | |
| | Coagulant Aid (mg/L) | | | | | | | | | | | | | |
| | Metal Res. Al (mg/L) | R | | | | | | | | | | | | |
| | | T | | | | | | | | | | | | |
| | pH | R | 7.90 | 7.80 | 7.89 | 8.10 | 7.80 | 7.91 | 8.10 | 7.60 | 7.93 | | | |
| | | T | 7.10 | 6.80 | 6.93 | 7.20 | 6.90 | 7.03 | 7.60 | 7.00 | 7.11 | | | |
| | Temperature (Deg.C.) | R | 25.00 | 18.00 | 22.60 | 23.00 | 20.50 | 22.00 | 25.00 | 21.00 | 23.00 | | | |
| SEP | Turbidity (FTU) | R | 68.00 | 8.60 | 20.00 | 52.00 | 2.00 | 29.87 | 22.00 | 12.00 | 17.77 | | | |
| | | T | 0.90 | 0.06 | 0.11 | 0.12 | 0.12 | 0.12 | 0.06 | 0.06 | 0.06 | | | |
| | Prime Coagulant (mg/L) | | 70.10 | 17.70 | 40.88 | 55.90 | 20.30 | 37.28 | 46.84 | 9.22 | 24.41 | | | |
| | Coagulant Aid (mg/L) | | | | | | | | | | | | | |
| | Metal Res. Al (mg/L) | R | | | | | | | | | | | | |
| | | T | | | | | | | | | | | | |
| | pH | R | 7.90 | 7.80 | 7.88 | 8.00 | 7.90 | 7.94 | 8.00 | 7.80 | 7.88 | | | |
| | | T | 7.00 | 6.80 | 6.90 | 7.20 | 7.00 | 7.09 | 7.30 | 7.00 | 7.12 | | | |
| | Temperature (Deg.C.) | R | 21.00 | 16.00 | 18.50 | 24.00 | 15.00 | 19.50 | 22.00 | 12.00 | 17.80 | | | |

TABLE 2.0: PARTICULATE REMOVAL SUMMARY

| | | | 1986 | | | 1985 | | | 1984 | | | 1983 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. |
| OCT | Turbidity (FTU) | R | 101.00 | 16.00 | 45.13 | 500.00 | 5.00 | 74.06 | 50.00 | 7.00 | 24.45 | | | |
| | | T | 0.10 | 0.03 | 0.08 | 0.16 | 0.16 | 0.16 | 0.07 | 0.07 | 0.07 | | | |
| | Prime Coagulant (mg/L) | | 110.50 | 24.10 | 70.61 | 177.40 | 11.80 | 61.58 | 59.70 | 14.50 | 32.10 | | | |
| | Coagulant Aid (mg/L) | | | | | | | | | | | | | |
| | Metal Res. Al (mg/L) | R | | | | | | | | | | | | |
| | | T | | | | | | | | | | | | |
| | pH | R | 8.00 | 7.80 | 7.91 | 8.00 | 7.90 | 7.92 | 8.20 | 7.60 | 7.88 | | | |
| | | T | 7.00 | 6.80 | 6.88 | 7.20 | 7.00 | 7.07 | 7.30 | 6.90 | 7.08 | | | |
| | Temperature (Deg.C.) | R | 20.00 | 10.00 | 13.30 | 16.00 | 9.00 | 12.90 | 16.00 | 11.00 | 13.50 | | | |
| NOV | Turbidity (FTU) | R | 107.00 | 8.10 | 32.74 | 500.00 | 45.00 | 194.00 | 105.00 | 2.00 | 42.47 | | | |
| | | T | 0.08 | 0.02 | 0.06 | 0.43 | 0.43 | 0.43 | 0.07 | 0.07 | 0.07 | | | |
| | Prime Coagulant (mg/L) | | 81.20 | 34.20 | 57.79 | 159.00 | 67.90 | 116.27 | 52.90 | 17.60 | 35.33 | | | |
| | Coagulant Aid (mg/L) | | | | | | | | | | | | | |
| | Metal Res. Al (mg/L) | R | | | | | | | | | | | | |
| | | T | | | | | | | | | | | | |
| | pH | R | 8.10 | 7.90 | 7.95 | 8.10 | 7.70 | 7.88 | 7.90 | 7.80 | 7.88 | | | |
| | | T | 7.00 | 6.90 | 6.96 | 7.20 | 6.50 | 6.97 | 7.20 | 6.90 | 7.05 | | | |
| | Temperature (Deg.C.) | R | 10.00 | 3.00 | 5.80 | 11.00 | 3.00 | 6.80 | 11.00 | 1.00 | 4.80 | | | |
| DEC | Turbidity (FTU) | R | 173.00 | 21.00 | 54.61 | 200.00 | 22.00 | 58.45 | 300.00 | 2.00 | 68.35 | | | |
| | | T | 0.58 | 0.02 | 0.08 | 0.12 | 0.12 | 0.12 | 0.14 | 0.14 | 0.14 | | | |
| | Prime Coagulant (mg/L) | | 102.90 | 49.30 | 73.69 | 156.30 | 17.90 | 79.86 | 128.40 | 27.60 | 54.64 | | | |
| | Coagulant Aid (mg/L) | | | | | | | | | | | | | |
| | Metal Res. Al (mg/L) | R | | | | | | | | | | | | |
| | | T | | | | | | | | | | | | |
| | pH | R | 8.00 | 7.90 | 7.95 | 7.90 | 7.90 | 7.90 | 8.10 | 7.80 | 7.94 | | | |
| | | T | 7.00 | 6.90 | 6.95 | 7.00 | 6.70 | 6.90 | 7.20 | 6.80 | 7.05 | | | |
| | Temperature (Deg.C.) | R | 3.00 | 1.00 | 1.40 | 3.00 | 0.50 | 1.30 | 4.00 | 1.00 | 1.70 | | | |

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( JAN 1984 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 16.00 | | | | 29.20 | | | | | 7.50 | 7.00 | 1.0 |
| 2 | 18.00 | | | | 36.50 | | | | | 7.50 | 7.00 | 1.0 |
| 3 | 18.00 | | | | 30.10 | | | | | 7.70 | 7.00 | 1.0 |
| 4 | 17.00 | | | | 38.90 | | | | | 7.80 | 7.00 | 1.0 |
| 5 | 16.00 | | | | 46.10 | | | | | 7.80 | 7.00 | 1.0 |
| 6 | 11.00 | | | | 39.20 | | | | | 7.60 | 7.10 | 1.0 |
| 7 | 10.00 | | | | 39.50 | | | | | 7.70 | 7.10 | 1.0 |
| 8 | 10.00 | | | | 41.30 | | | | | 7.70 | 7.10 | 1.0 |
| 9 | 5.00 | | | ** 0.18 | 40.10 | | | | | 7.70 | 7.10 | 1.0 |
| 10 | 6.00 | | | | 28.60 | | | | | 7.70 | 7.10 | 1.0 |
| 11 | 5.00 | | | | 39.60 | | | | | 7.70 | 7.10 | 1.0 |
| 12 | 12.00 | | | | 38.60 | | | | | 7.70 | 7.10 | 1.0 |
| 13 | 8.00 | | | | 38.60 | | | | | 7.60 | 7.10 | 1.0 |
| 14 | 10.00 | | | | 37.20 | | | | | 7.70 | 7.00 | 1.0 |
| 15 | 9.00 | | | | 39.80 | | | | | 7.70 | 7.00 | 1.0 |
| 16 | 8.00 | | | | 27.50 | | | | | 7.70 | 7.00 | 2.0 |
| 17 | 8.00 | | | | 37.70 | | | | | 7.50 | 7.00 | 2.0 |
| 18 | 10.00 | | | | 51.60 | | | | | 7.70 | 7.10 | 2.0 |
| 19 | 12.00 | | | | 31.10 | | | | | 7.70 | 7.00 | 3.0 |
| 20 | 10.00 | | | | 32.90 | | | | | 7.70 | 7.00 | 3.0 |
| 21 | 10.00 | | | | 26.20 | | | | | 7.70 | 7.00 | 2.0 |
| 22 | 12.00 | | | | 29.40 | | | | | 7.70 | 7.00 | 2.0 |
| 23 | 14.00 | | | | 32.90 | | | | | 7.70 | 6.90 | 2.0 |
| 24 | 12.00 | | | | 37.70 | | | | | 7.70 | 7.00 | 3.0 |
| 25 | 10.00 | | | | 32.30 | | | | | 7.70 | 7.00 | 3.0 |
| 26 | 12.00 | | | | 32.30 | | | | | 7.70 | 7.00 | 3.0 |
| 27 | 10.00 | | | | 24.10 | | | | | 7.70 | 7.00 | 3.0 |
| 28 | 14.00 | | | | 28.90 | | | | | 7.70 | 7.00 | 3.0 |
| 29 | 9.00 | | | | 33.20 | | | | | 7.70 | 6.90 | 3.0 |
| 30 | 10.00 | | | | 30.00 | | | | | 7.50 | 7.00 | 3.0 |
| 31 | 10.00 | | | | 29.80 | | | | | 7.50 | 6.90 | 4.0 |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( FEB 1984 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 10.00 | | | | 21.00 | | | | | 7.80 | 7.30 | |
| 2 | 5.00 | | | | 29.60 | | | | | 7.90 | 7.40 | |
| 3 | 12.00 | | | | 33.60 | | | | | 7.90 | 7.20 | 4.0 |
| 4 | 10.00 | | | | 38.00 | | | | | 7.90 | 7.10 | 3.0 |
| 5 | 8.00 | | | | 32.80 | | | | | 7.90 | 7.10 | 3.0 |
| 6 | 2.00 | | | ** 0.34 | 29.00 | | | | | 7.75 | 7.00 | 2.0 |
| 7 | 5.00 | | | | 31.00 | | | | | 7.75 | 7.10 | 2.0 |
| 8 | 5.00 | | | | 31.80 | | | | | 7.60 | 7.00 | 2.0 |
| 9 | 7.00 | | | | 31.40 | | | | | 7.70 | 6.80 | 2.0 |
| 10 | 5.00 | | | | 50.57 | | | | | 7.75 | 6.90 | 1.0 |
| 11 | 5.00 | | | | 35.75 | | | | | 7.75 | 7.00 | 1.5 |
| 12 | 7.00 | | | | 50.30 | | | | | 7.80 | 7.00 | 1.5 |
| 13 | 20.00 | | | | 89.60 | | | | | 7.70 | 6.80 | 1.5 |
| 14 | 20.00 | | | | 68.00 | | | | | 7.50 | 6.60 | 1.5 |
| 15 | 15.00 | | | | 99.90 | | | | | 7.50 | 6.60 | 1.0 |
| 16 | 20.00 | | | | 49.00 | | | | | 7.50 | 6.80 | 2.0 |
| 17 | 55.00 | | | | 97.10 | | | | | 7.75 | 6.75 | 2.0 |
| 18 | 35.00 | | | | 68.20 | | | | | 7.70 | 6.80 | 2.5 |
| 19 | 40.00 | | | | 83.10 | | | | | 7.70 | 6.80 | 3.0 |
| 20 | 50.00 | | | | 102.20 | | | | | 7.40 | 6.80 | 3.0 |
| 21 | 70.00 | | | | 104.10 | | | | | 7.50 | 7.00 | 3.0 |
| 22 | 25.00 | | | | 62.00 | | | | | 7.50 | 6.80 | 3.0 |
| 23 | 15.00 | | | | 49.00 | | | | | 7.70 | 6.70 | 3.0 |
| 24 | 10.00 | | | | 63.20 | | | | | 7.80 | 6.90 | 4.0 |
| 25 | 12.00 | | | | 38.40 | | | | | 7.90 | 7.00 | 3.0 |
| 26 | 8.00 | | | | 71.00 | | | | | 7.70 | 7.00 | 1.0 |
| 27 | 10.00 | | | | 33.10 | | | | | 7.90 | 6.75 | 1.5 |
| 28 | 12.00 | | | | 39.00 | | | | | 7.85 | 6.85 | 1.0 |
| 29 | 10.00 | | | | 46.00 | | | | | 7.80 | 7.00 | 1.0 |
| 30 | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( MAR 1984 )

| DATE | TURBIDITY (FTU) Raw * | Set. | Filter | Treat. * | COAGULANT mg/L | COAG. AID mg/L | FILTER AID mg/L | METAL RES. Al (mg/L) Raw | Treat. | pH Raw | Treat. | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10.00 | | | 0.04 | 48.10 | | | | | 7.90 | 7.00 | 0.5 |
| 2 | 50.00 | | | 0.02 | 66.40 | | | | | 7.80 | 7.00 | 0.5 |
| 3 | 55.00 | | | 0.04 | 52.90 | | | | | 7.80 | 7.00 | 0.5 |
| 4 | 40.00 | | | 0.04 | 58.40 | | | | | 7.80 | 7.00 | 0.5 |
| 5 | 35.00 | | | 0.04 | 74.60 | | | | | 7.80 | 7.00 | 0.5 |
| 6 | 48.00 | | | 0.02 | 73.80 | | | | | 7.80 | 6.90 | 0.5 |
| 7 | 45.00 | | | 0.02 | 63.60 | | | | | 7.90 | 6.80 | 0.5 |
| 8 | 48.00 | | | 0.01 | 89.50 | | | | | 7.70 | 6.90 | 0.5 |
| 9 | 38.00 | | | 0.02 | 76.60 | | | | | 7.70 | 7.00 | 0.5 |
| 10 | 30.00 | | | 0.04 | 77.70 | | | | | 7.60 | 7.10 | 0.5 |
| 11 | 25.00 | | | 0.06 | 77.90 | | | | | 7.80 | 7.00 | 0.5 |
| 12 | 16.00 | | | 0.04 | 77.40 | | | | | 7.70 | 6.80 | 0.5 |
| 13 | 28.00 | | | 0.04 | 61.00 | | | | | 7.60 | 6.90 | 0.5 |
| 14 | 18.00 | | | 0.02 | 62.40 | | | | | 7.70 | 6.70 | 0.5 |
| 15 | 7.00 | | | 0.01 | 66.20 | | | | | 7.70 | 7.70 | 0.5 |
| 16 | 35.00 | | | 0.01 | 55.40 | | | | | 7.60 | 6.80 | 0.5 |
| 17 | 40.00 | | | 0.02 | 103.00 | | | | | 7.70 | 6.80 | 1.0 |
| 18 | 55.00 | | | 0.03 | 103.70 | | | | | 7.70 | 6.90 | 1.0 |
| 19 | 25.00 | | | 0.04 | 93.40 | | | | | 7.40 | 6.90 | 0.5 |
| 20 | 145.00 | | | 0.02 | 131.70 | | | | | 7.60 | 7.00 | 0.5 |
| 21 | 50.00 | | | 0.03 | 137.00 | | | | | 7.80 | 6.80 | 0.5 |
| 22 | 500.00 | | | 0.06 | 149.70 | | | | | 7.20 | 6.60 | 0.5 |
| 23 | 145.00 | | | 0.06 | 139.20 | | | | | 7.70 | 6.70 | 0.5 |
| 24 | 160.00 | | | 0.02 | 152.90 | | | | | 7.60 | 6.80 | 0.5 |
| 25 | 250.00 | | | 0.02 | 123.10 | | | | | 7.70 | 6.90 | 0.5 |
| 26 | 40.00 | | | 0.04 | 33.80 | | | | | 7.70 | 6.80 | 0.5 |
| 27 | 22.00 | | | 0.02 | 35.80 | | | | | 7.60 | 6.90 | 0.5 |
| 28 | 35.00 | | | 0.04 | 26.60 | | | | | 7.70 | 6.90 | 0.5 |
| 29 | 45.00 | | | 0.01 | 41.30 | | | | | 7.80 | 7.00 | 0.5 |
| 30 | 21.00 | | | 0.01 | 24.50 | | | | | 7.80 | 6.90 | 0.5 |
| 31 | 25.00 | | | 0.01 | 41.20 | | | | | 7.80 | 6.90 | 0.5 |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( APR 1984 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. * | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 30.00 | | | 0.06 | 33.50 | | | | | 7.70 | 6.80 | 1.0 |
| 2 | 25.00 | | | 0.06 | 32.80 | | | | | 7.90 | 6.80 | 2.0 |
| 3 | 85.00 | | | 0.04 | 44.20 | | | | | 7.70 | 7.00 | 1.0 |
| 4 | 175.00 | | | 0.04 | 91.40 | | | | | 7.70 | 6.90 | 1.0 |
| 5 | 350.00 | | | 0.04 | 122.80 | | | | | 8.20 | 6.70 | 2.0 |
| 6 | 200.00 | | | 0.06 | 112.10 | | | | | 7.90 | 6.80 | 2.0 |
| 7 | 70.00 | | | 0.06 | 95.40 | | | | | 7.80 | 6.90 | 1.0 |
| 8 | 70.00 | | | 0.08 | 77.30 | | | | | 7.90 | 7.00 | 2.0 |
| 9 | 275.00 | | | 0.06 | 88.70 | | | | | 7.70 | 6.60 | 4.0 |
| 10 | 75.00 | | | 0.06 | 62.30 | | | | | 7.90 | 6.85 | 4.5 |
| 11 | 50.00 | | | 0.04 | 49.30 | | | | | 8.00 | 7.00 | 6.0 |
| 12 | 60.00 | | | 0.04 | 49.10 | | | | | 8.00 | 7.20 | 6.5 |
| 13 | 40.00 | | | 0.06 | 39.10 | | | | | 7.80 | 7.10 | 8.5 |
| 14 | 45.00 | | | 0.04 | 40.00 | | | | | 7.90 | 7.10 | 8.0 |
| 15 | 35.00 | | | 0.06 | 41.10 | | | | | 7.90 | 7.10 | 8.0 |
| 16 | 68.00 | | | 0.06 | 34.00 | | | | | 8.00 | 7.10 | 8.0 |
| 17 | 70.00 | | | 0.06 | 32.20 | | | | | 8.10 | 7.20 | 9.0 |
| 18 | 65.00 | | | 0.04 | 55.40 | | | | | 8.20 | 7.20 | 8.0 |
| 19 | 40.00 | | | 0.04 | 42.50 | | | | | 8.00 | 7.10 | 7.0 |
| 20 | 40.00 | | | 0.04 | 52.00 | | | | | 8.00 | 7.20 | 8.0 |
| 21 | 45.00 | | | 0.04 | 43.30 | | | | | 8.00 | 7.10 | 8.0 |
| 22 | 45.00 | | | 0.06 | 34.30 | | | | | 8.00 | 7.10 | 8.5 |
| 23 | 43.00 | | | 0.06 | 31.80 | | | | | 8.00 | 7.20 | 8.5 |
| 24 | 40.00 | | | 0.06 | 47.20 | | | | | 8.10 | 6.90 | 7.0 |
| 25 | 5.00 | | | 0.04 | 50.90 | | | | | 8.00 | 7.00 | 8.5 |
| 26 | 1.00 | | | 0.04 | 36.20 | | | | | 8.00 | 7.00 | 9.0 |
| 27 | 2.00 | | | 0.04 | 21.40 | | | | | 8.00 | 6.90 | 10.0 |
| 28 | 5.00 | | | 0.04 | 35.30 | | | | | 8.00 | 6.90 | 11.5 |
| 29 | 2.00 | | | 0.06 | 30.10 | | | | | 8.00 | 6.90 | 12.0 |
| 30 | 1.00 | | | 0.06 | 37.20 | | | | | 8.00 | 7.00 | 14.0 |
| 31 | | | | | | | | | | | | |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( MAY 1984 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. * | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 1.00 | | | 0.06 | 39.60 | | | | | 8.00 | 7.00 | 10.0 |
| 2 | 1.00 | | | 0.08 | 37.20 | | | | | 7.80 | 7.00 | 10.0 |
| 3 | 1.00 | | | 0.06 | 37.80 | | | | | 8.00 | 7.00 | 10.0 |
| 4 | 50.00 | | | 0.04 | 45.80 | | | | | 8.00 | 7.10 | 10.0 |
| 5 | 35.00 | | | 0.06 | 32.90 | | | | | 8.00 | 7.00 | 10.0 |
| 6 | 40.00 | | | 0.04 | 35.70 | | | | | 7.90 | 7.00 | 10.0 |
| 7 | 25.00 | | | 0.04 | 40.80 | | | | | 8.00 | 6.90 | 12.0 |
| 8 | 7.00 | | | 0.04 | 42.30 | | | | | 8.00 | 7.00 | 12.0 |
| 9 | 30.00 | | | 0.04 | 42.80 | | | | | 8.00 | 7.00 | 11.0 |
| 10 | 12.00 | | | 0.06 | 45.70 | | | | | 7.20 | 7.00 | 10.0 |
| 11 | 1.00 | | | 0.06 | 30.00 | | | | | 7.80 | 7.00 | 8.0 |
| 12 | 5.00 | | | 0.04 | 38.20 | | | | | 7.80 | 7.00 | 8.0 |
| 13 | 45.00 | | | 0.06 | 37.70 | | | | | 7.80 | 7.00 | 10.0 |
| 14 | 40.00 | | | 0.06 | 38.10 | | | | | 7.80 | 7.00 | 9.0 |
| 15 | 70.00 | | | 0.08 | 37.00 | | | | | 8.10 | 7.00 | 10.0 |
| 16 | 48.00 | | | 0.06 | 21.40 | | | | | 8.00 | 7.00 | 10.0 |
| 17 | 45.00 | | | 0.06 | 34.40 | | | | | 8.00 | 7.00 | 12.0 |
| 18 | 60.00 | | | 0.08 | 27.90 | | | | | 8.00 | 7.10 | 12.0 |
| 19 | 45.00 | | | 0.06 | 32.90 | | | | | 7.90 | 7.00 | 12.0 |
| 20 | 40.00 | | | 0.06 | 31.80 | | | | | 8.00 | 7.00 | 12.0 |
| 21 | 45.00 | | | 0.04 | 30.70 | | | | | 8.00 | 7.00 | 12.0 |
| 22 | 35.00 | | | 0.04 | 35.80 | | | | | 8.00 | 7.00 | 12.0 |
| 23 | 30.00 | | | 0.04 | 22.20 | | | | | 8.00 | 7.00 | 14.0 |
| 24 | 40.00 | | | 0.04 | 41.10 | | | | | 7.80 | 7.00 | 14.0 |
| 25 | 30.00 | | | 0.04 | 29.40 | | | | | 7.90 | 7.00 | 14.0 |
| 26 | 40.00 | | | 0.04 | 38.50 | | | | | 8.00 | 7.00 | 15.0 |
| 27 | 60.00 | | | 0.06 | 23.10 | | | | | 8.00 | 7.00 | 15.0 |
| 28 | 175.00 | | | 0.06 | 44.40 | | | | | 8.00 | 7.00 | 16.0 |
| 29 | 150.00 | | | 0.08 | 49.40 | | | | | 8.00 | 7.00 | 13.0 |
| 30 | 80.00 | | | 0.04 | 50.60 | | | | | 8.00 | 7.00 | 12.0 |
| 31 | 70.00 | | | 0.06 | 50.60 | | | | | 7.80 | 6.80 | 12.0 |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( JUN 1984 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. * | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 30.00 | | | 0.05 | 55.10 | | | | | 8.00 | 6.80 | 14.0 |
| 2 | 30.00 | | | 0.06 | 43.00 | | | | | 7.90 | 6.90 | 14.0 |
| 3 | 35.00 | | | 0.04 | 42.40 | | | | | 8.00 | 7.00 | 14.0 |
| 4 | 35.00 | | | 0.06 | 40.30 | | | | | 7.80 | 6.90 | 14.0 |
| 5 | 20.00 | | | 0.04 | 34.60 | | | | | 7.70 | 6.80 | 14.0 |
| 6 | 20.20 | | | 0.04 | 41.90 | | | | | 7.70 | 6.90 | 13.0 |
| 7 | 15.00 | | | 0.04 | 41.10 | | | | | 8.00 | 6.90 | 13.0 |
| 8 | 25.00 | | | 0.06 | 33.90 | | | | | 8.00 | 6.90 | 15.0 |
| 9 | 20.00 | | | 0.05 | 21.70 | | | | | 8.00 | 7.00 | 16.0 |
| 10 | 35.00 | | | 0.04 | 18.70 | | | | | 8.00 | 7.00 | 18.0 |
| 11 | 32.00 | | | 0.04 | 29.40 | | | | | 8.10 | 7.00 | 18.0 |
| 12 | 2.00 | | | 0.04 | 26.00 | | | | | 8.00 | 7.00 | 18.0 |
| 13 | 17.00 | | | 0.06 | 22.60 | | | | | 8.00 | 7.00 | 20.0 |
| 14 | 17.00 | | | 0.06 | 27.30 | | | | | 7.80 | 6.95 | 22.0 |
| 15 | 45.00 | | | 0.04 | 26.50 | | | | | 7.90 | 7.10 | 22.0 |
| 16 | 50.00 | | | 0.04 | 27.90 | | | | | 7.90 | 7.00 | 18.0 |
| 17 | 30.00 | | | 0.04 | 27.10 | | | | | 7.90 | 7.00 | 19.0 |
| 18 | 20.00 | | | 0.02 | 29.00 | | | | | 7.80 | 7.00 | 20.0 |
| 19 | 3.00 | | | 0.02 | 30.80 | | | | | 7.40 | 7.10 | 21.0 |
| 20 | 12.00 | | | 0.04 | 29.80 | | | | | 8.00 | 7.00 | 22.0 |
| 21 | 15.00 | | | 0.03 | 31.70 | | | | | 7.70 | 7.00 | 16.0 |
| 22 | 20.00 | | | 0.05 | 30.60 | | | | | 7.70 | 7.00 | 16.0 |
| 23 | 25.00 | | | 0.06 | 22.70 | | | | | 7.70 | 7.00 | 18.0 |
| 24 | 5.00 | | | 0.06 | 26.30 | | | | | 7.70 | 7.00 | 19.0 |
| 25 | 20.00 | | | 0.04 | 26.70 | | | | | 7.70 | 7.10 | 20.0 |
| 26 | 15.00 | | | 0.04 | 29.80 | | | | | 7.70 | 7.00 | 20.0 |
| 27 | 22.00 | | | 0.06 | 19.90 | | | | | 7.80 | 7.00 | 20.0 |
| 28 | 30.00 | | | 0.08 | 29.90 | | | | | 7.80 | 7.00 | 20.0 |
| 29 | 56.00 | | | 0.06 | 27.60 | | | | | 7.90 | 7.00 | 20.0 |
| 30 | 50.00 | | | 0.08 | 25.30 | | | | | 7.80 | 7.00 | 20.0 |
| 31 | | | | | | | | | | | | |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( JUL 1984 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. * | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 55.00 | | | 0.08 | 31.80 | | | | | 7.80 | 7.00 | 21.0 |
| 2 | 60.00 | | | 0.08 | 28.60 | | | | | 7.90 | 7.00 | 21.0 |
| 3 | 40.00 | | | 0.06 | 29.20 | | | | | 7.90 | 7.00 | 21.0 |
| 4 | 30.00 | | | 0.08 | 23.60 | | | | | 7.80 | 7.00 | 22.0 |
| 5 | 15.00 | | | 0.08 | 36.60 | | | | | 7.80 | 7.00 | 22.0 |
| 6 | 7.00 | | | 0.06 | 34.40 | | | | | 7.75 | 6.90 | 21.0 |
| 7 | 12.00 | | | 0.06 | 34.60 | | | | | 7.80 | 7.00 | 20.0 |
| 8 | 15.00 | | | 0.08 | 25.50 | | | | | 7.80 | 7.00 | 19.0 |
| 9 | 40.00 | | | 0.08 | 23.30 | | | | | 7.80 | 7.00 | 18.0 |
| 10 | 50.00 | | | 0.08 | 24.80 | | | | | 7.80 | 7.00 | 20.0 |
| 11 | 50.00 | | | 0.06 | 26.40 | | | | | 7.90 | 7.10 | 20.0 |
| 12 | 35.00 | | | 0.06 | 37.70 | | | | | 7.70 | 7.20 | 22.0 |
| 13 | 30.00 | | | 0.08 | 36.10 | | | | | 7.80 | 7.00 | 22.0 |
| 14 | 25.00 | | | 0.08 | 30.60 | | | | | 7.80 | 7.00 | 22.0 |
| 15 | 20.00 | | | 0.06 | 32.70 | | | | | 7.90 | 7.00 | 22.0 |
| 16 | 30.00 | | | 0.08 | 29.00 | | | | | 7.80 | 7.00 | 22.0 |
| 17 | 5.00 | | | 0.06 | 26.10 | | | | | 7.80 | 7.00 | 22.0 |
| 18 | 20.00 | | | 0.06 | 25.00 | | | | | 7.80 | 7.00 | 22.0 |
| 19 | 30.00 | | | 0.06 | 32.00 | | | | | 7.90 | 7.00 | 20.0 |
| 20 | 30.00 | | | 0.08 | 26.20 | | | | | 8.00 | 7.00 | 21.0 |
| 21 | 25.00 | | | 0.08 | 25.90 | | | | | 8.00 | 7.00 | 22.0 |
| 22 | 20.00 | | | 0.06 | 22.50 | | | | | 8.00 | 7.10 | 22.0 |
| 23 | 30.00 | | | 0.06 | 26.70 | | | | | 7.90 | 7.10 | 22.0 |
| 24 | 30.00 | | | 0.06 | 21.70 | | | | | 8.00 | 7.10 | 22.0 |
| 25 | 20.00 | | | 0.06 | 24.10 | | | | | 8.00 | 7.20 | 22.0 |
| 26 | 20.00 | | | 0.04 | 22.70 | | | | | 8.00 | 7.10 | 21.0 |
| 27 | 7.00 | | | 0.04 | 22.70 | | | | | 8.10 | 7.10 | 22.0 |
| 28 | 15.00 | | | 0.06 | 24.40 | | | | | 8.00 | 7.00 | 22.0 |
| 29 | 25.00 | | | 0.06 | 24.10 | | | | | 8.00 | 7.00 | 22.0 |
| 30 | 5.00 | | | 0.08 | 21.90 | | | | | 8.00 | 7.30 | 22.0 |
| 31 | 31.00 | | | 0.08 | 25.50 | | | | | 8.00 | 7.20 | 22.0 |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( AUG 1984 )

| DATE | TURBIDITY (FTU) Raw * | Set. | Filter | Treat. | COAGULANT mg/L | COAG. AID mg/L | FILTER AID mg/L | METAL RES. Al (mg/L) Raw | Treat. | pH Raw | Treat. | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 45.00 | | | | 25.90 | | | | | 8.00 | 7.60 | 23.0 |
| 2 | 40.00 | | | | 26.90 | | | | | 8.10 | 7.30 | 23.0 |
| 3 | 40.00 | | | | 31.20 | | | | | 7.90 | 7.20 | 23.0 |
| 4 | 40.00 | | | | 37.80 | | | | | 7.90 | 7.10 | 23.0 |
| 5 | 30.00 | | | | 28.30 | | | | | 7.90 | 7.00 | 23.0 |
| 6 | 35.00 | | | | 29.10 | | | | | 7.90 | 7.00 | 23.0 |
| 7 | 30.00 | | | ** 0.34 | 29.30 | | | | | 7.60 | 7.10 | 23.0 |
| 8 | 21.00 | | | | 28.10 | | | | | 7.70 | 7.00 | 24.0 |
| 9 | 10.00 | | | | 26.70 | | | | | 7.80 | 7.00 | 24.0 |
| 10 | 12.00 | | | | 40.20 | | | | | 7.90 | 7.00 | 24.0 |
| 11 | 20.00 | | | | 29.40 | | | | | 8.00 | 7.00 | 24.0 |
| 12 | 60.00 | | | | 26.20 | | | | | 8.00 | 7.00 | 24.0 |
| 13 | 55.00 | | | | 26.80 | | | | | 8.00 | 7.00 | 24.0 |
| 14 | 40.00 | | | | 33.40 | | | | | 8.10 | 7.00 | 24.0 |
| 15 | 44.00 | | | | 24.12 | | | | | 8.10 | 7.00 | 24.0 |
| 16 | 20.00 | | | | 28.40 | | | | | 7.90 | 7.15 | 25.0 |
| 17 | 14.00 | | | | 27.52 | | | | | 8.10 | 7.10 | 25.0 |
| 18 | 22.00 | | | | 42.80 | | | | | 8.00 | 7.20 | 25.0 |
| 19 | 30.00 | | | | 41.30 | | | | | 8.00 | 7.10 | 23.0 |
| 20 | 35.00 | | | | 45.08 | | | | | 7.90 | 7.00 | 21.0 |
| 21 | 22.00 | | | | 30.10 | | | | | 7.90 | 7.20 | 21.0 |
| 22 | 30.00 | | | | 36.90 | | | | | 7.90 | 7.10 | 21.0 |
| 23 | 50.00 | | | | 39.30 | | | | | 7.90 | 7.20 | 22.0 |
| 24 | 40.00 | | | | 35.60 | | | | | 7.90 | 7.20 | 23.0 |
| 25 | 40.00 | | | | 30.20 | | | | | 7.90 | 7.10 | 22.0 |
| 26 | 45.00 | | | | 31.08 | | | | | 7.90 | 7.00 | 22.0 |
| 27 | 40.00 | | | | 33.20 | | | | | 7.90 | 7.10 | 22.0 |
| 28 | 40.00 | | | | 28.60 | | | | | 7.90 | 7.20 | 22.0 |
| 29 | 40.00 | | | | 40.00 | | | | | 7.90 | 7.20 | 22.0 |
| 30 | 30.00 | | | | 33.30 | | | | | 7.90 | 7.20 | 23.0 |
| 31 | 20.00 | | | | 20.40 | | | | | 7.90 | 7.00 | 22.0 |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( SEP 1984 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 22.00 | | | | 24.60 | | | | | 7.90 | 7.00 | 22.0 |
| 2 | 21.00 | | | | 20.60 | | | | | 7.90 | 7.00 | 21.0 |
| 3 | 21.00 | | | | 26.90 | | | | | 7.90 | 7.00 | 21.0 |
| 4 | 20.00 | | | ** 0.06 | 33.30 | | | | | 7.90 | 7.10 | 20.0 |
| 5 | 18.00 | | | | 26.30 | | | | | 7.80 | 7.10 | 18.0 |
| 6 | 18.00 | | | | 9.22 | | | | | 7.90 | 7.10 | 18.0 |
| 7 | 18.00 | | | | 23.00 | | | | | 7.85 | 7.30 | 18.0 |
| 8 | 18.00 | | | | 18.30 | | | | | 7.80 | 7.10 | 18.0 |
| 9 | 18.00 | | | | 16.40 | | | | | 7.80 | 7.00 | 18.0 |
| 10 | 18.00 | | | | 22.10 | | | | | 7.80 | 7.10 | 18.0 |
| 11 | 19.00 | | | | 46.84 | | | | | 7.80 | 7.10 | 19.0 |
| 12 | 19.00 | | | | 23.12 | | | | | 7.80 | 7.10 | 19.0 |
| 13 | 19.00 | | | | 26.90 | | | | | 7.85 | 7.10 | 19.0 |
| 14 | 19.00 | | | | 32.30 | | | | | 7.90 | 7.10 | 19.0 |
| 15 | 17.00 | | | | 19.30 | | | | | 8.00 | 7.10 | 17.0 |
| 16 | 16.00 | | | | 13.64 | | | | | 8.00 | 7.10 | 16.0 |
| 17 | 17.00 | | | | 36.66 | | | | | 7.90 | 7.10 | 17.0 |
| 18 | 17.00 | | | | 17.70 | | | | | 7.80 | 7.00 | 17.0 |
| 19 | 17.00 | | | | 19.36 | | | | | 7.90 | 7.10 | 17.0 |
| 20 | 18.00 | | | | 25.77 | | | | | 7.90 | 7.10 | 18.0 |
| 21 | 18.00 | | | | 25.30 | | | | | 7.90 | 7.10 | 18.0 |
| 22 | 18.00 | | | | 20.60 | | | | | 7.90 | 7.10 | 18.0 |
| 23 | 18.00 | | | | 25.84 | | | | | 7.90 | 7.00 | 18.0 |
| 24 | 18.00 | | | | 29.07 | | | | | 7.90 | 7.10 | 18.0 |
| 25 | 18.00 | | | | 23.66 | | | | | 7.80 | 7.10 | 18.0 |
| 26 | 16.00 | | | | 24.73 | | | | | 7.90 | 7.10 | 16.0 |
| 27 | 16.00 | | | | 18.65 | | | | | 7.90 | 7.10 | 16.0 |
| 28 | 15.00 | | | | 23.60 | | | | | 7.90 | 7.10 | 15.0 |
| 29 | 14.00 | | | | 25.13 | | | | | 7.90 | 7.00 | 14.0 |
| 30 | 12.00 | | | | 33.35 | | | | | 7.90 | 7.20 | 12.0 |
| 31 | | | | | | | | | | | | |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( OCT 1984 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 25.00 | | | | 19.21 | | | | | 7.80 | 7.20 | 12.0 |
| 2 | 25.00 | | | | 14.50 | | | | | 7.80 | 7.10 | 12.0 |
| 3 | 30.00 | | | | 33.67 | | | | | 7.90 | 7.00 | 12.0 |
| 4 | 35.00 | | | | 30.33 | | | | | 7.80 | 7.20 | 12.0 |
| 5 | 20.00 | | | ** 0.07 | 22.50 | | | | | 7.80 | 7.10 | 12.0 |
| 6 | 23.00 | | | | 28.00 | | | | | 7.80 | 7.10 | 12.0 |
| 7 | 25.00 | | | | 21.10 | | | | | 7.80 | 7.10 | 12.0 |
| 8 | 20.00 | | | | 31.50 | | | | | 7.80 | 7.10 | 14.0 |
| 9 | 20.00 | | | | 29.63 | | | | | 7.80 | 7.10 | 14.0 |
| 10 | 15.00 | | | | 25.66 | | | | | 7.90 | 7.10 | 14.0 |
| 11 | 20.00 | | | | 40.71 | | | | | 7.90 | 7.20 | 14.0 |
| 12 | 15.00 | | | | 31.90 | | | | | 7.90 | 7.10 | 15.0 |
| 13 | 15.00 | | | | 23.10 | | | | | 7.90 | 7.10 | 15.0 |
| 14 | 25.00 | | | | 35.30 | | | | | 7.90 | 7.10 | 15.0 |
| 15 | 25.00 | | | | 35.60 | | | | | 7.90 | 7.10 | 15.0 |
| 16 | 30.00 | | | | 30.50 | | | | | 8.20 | 7.20 | 16.0 |
| 17 | 20.00 | | | | 59.60 | | | | | 7.60 | 6.90 | 16.0 |
| 18 | 36.00 | | | | 21.90 | | | | | 8.00 | 7.20 | 16.0 |
| 19 | 50.00 | | | | 23.50 | | | | | 8.00 | 7.30 | 16.0 |
| 20 | 45.00 | | | | 34.30 | | | | | 7.90 | 7.10 | 16.0 |
| 21 | 50.00 | | | | 30.30 | | | | | 7.90 | 7.00 | 15.0 |
| 22 | 45.00 | | | | 51.90 | | | | | 8.00 | 7.10 | 14.0 |
| 23 | 15.00 | | | | 23.60 | | | | | 7.90 | 7.00 | 13.0 |
| 24 | 7.00 | | | | 41.20 | | | | | 7.90 | 7.00 | 12.0 |
| 25 | 8.00 | | | | 46.80 | | | | | 7.90 | 7.00 | 12.0 |
| 26 | 10.00 | | | | 22.70 | | | | | 7.90 | 7.00 | 12.0 |
| 27 | 15.00 | | | | 26.10 | | | | | 7.90 | 7.00 | 11.0 |
| 28 | 15.00 | | | | 59.70 | | | | | 7.90 | 7.00 | 11.0 |
| 29 | 18.00 | | | | 28.20 | | | | | 7.80 | 7.05 | 13.0 |
| 30 | 16.00 | | | | 35.50 | | | | | 7.90 | 7.00 | 12.0 |
| 31 | 40.00 | | | | 36.70 | | | | | 7.80 | 7.00 | 12.0 |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( NOV 1984 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 15.00 | | | | 23.90 | | | | | 7.80 | 7.00 | 11.0 |
| 2 | 11.00 | | | | 41.30 | | | | | 7.90 | 7.10 | 9.0 |
| 3 | 20.00 | | | | 41.30 | | | | | 7.90 | 7.00 | 7.0 |
| 4 | 35.00 | | | | 29.90 | | | | | 7.80 | 7.00 | 7.0 |
| 5 | 15.00 | | | ** 0.07 | 47.70 | | | | | 7.90 | 7.10 | 9.0 |
| 6 | 25.00 | | | | 35.40 | | | | | 7.90 | 7.00 | 7.0 |
| 7 | 20.00 | | | | 33.70 | | | | | 7.90 | 7.00 | 7.0 |
| 8 | 15.00 | | | | 27.20 | | | | | 7.90 | 7.00 | 7.0 |
| 9 | 2.00 | | | | 30.70 | | | | | 7.90 | 7.00 | 8.0 |
| 10 | 5.00 | | | | 35.90 | | | | | 7.90 | 7.00 | 8.0 |
| 11 | 80.00 | | | | 52.90 | | | | | 7.90 | 7.00 | 8.0 |
| 12 | 105.00 | | | | 49.80 | | | | | 7.90 | 7.10 | 5.0 |
| 13 | 70.00 | | | | 30.80 | | | | | 7.80 | 7.10 | 2.0 |
| 14 | 45.00 | | | | 23.00 | | | | | 7.80 | 7.20 | 4.0 |
| 15 | 50.00 | | | | 17.60 | | | | | 7.90 | 7.20 | 5.0 |
| 16 | 70.00 | | | | 24.20 | | | | | 7.90 | 7.10 | 4.0 |
| 17 | 80.00 | | | | 33.70 | | | | | 7.90 | 7.10 | 4.0 |
| 18 | 65.00 | | | | 44.10 | | | | | 7.90 | 7.00 | 4.0 |
| 19 | 85.00 | | | | 33.40 | | | | | 7.90 | 7.10 | 4.0 |
| 20 | 70.00 | | | | 31.60 | | | | | 7.90 | 7.10 | 2.0 |
| 21 | 80.00 | | | | 39.00 | | | | | 7.90 | 7.00 | 2.0 |
| 22 | 40.00 | | | | 35.50 | | | | | 7.90 | 7.10 | 2.0 |
| 23 | 80.00 | | | | 40.70 | | | | | 7.80 | 7.00 | 1.0 |
| 24 | 50.00 | | | | 37.10 | | | | | 7.90 | 7.00 | 1.0 |
| 25 | 30.00 | | | | 34.90 | | | | | 7.90 | 7.00 | 1.0 |
| 26 | 25.00 | | | | 35.80 | | | | | 7.90 | 7.00 | 2.0 |
| 27 | 30.00 | | | | 36.30 | | | | | 7.90 | 7.00 | 2.0 |
| 28 | 21.00 | | | | 47.40 | | | | | 7.80 | 7.10 | 4.0 |
| 29 | 20.00 | | | | 34.70 | | | | | 7.90 | 7.10 | 3.0 |
| 30 | 15.00 | | | | 30.40 | | | | | 7.90 | 6.90 | 3.0 |
| 31 | | | | | | | | | | | | |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( DEC 1984 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 20.00 | | | | 49.50 | | | | | 7.90 | 7.00 | 3.0 |
| 2 | 15.00 | | | | 37.10 | | | | | 7.90 | 7.10 | 3.0 |
| 3 | 2.00 | | | | 48.00 | | | | | 8.00 | 7.10 | 3.0 |
| 4 | 10.00 | | | ** 0.14 | 47.70 | | | | | 8.00 | 7.20 | 3.0 |
| 5 | 20.00 | | | | 34.80 | | | | | 8.00 | 7.10 | 1.0 |
| 6 | 25.00 | | | | 44.40 | | | | | 8.00 | 7.00 | 1.0 |
| 7 | 37.00 | | | | 27.90 | | | | | 8.00 | 7.00 | 1.0 |
| 8 | 25.00 | | | | 28.80 | | | | | 8.00 | 7.10 | 1.0 |
| 9 | 30.00 | | | | 34.50 | | | | | 7.90 | 7.10 | 1.0 |
| 10 | 50.00 | | | | 38.60 | | | | | 7.90 | 7.10 | 1.0 |
| 11 | 50.00 | | | | 31.80 | | | | | 8.00 | 7.20 | 1.0 |
| 12 | 50.00 | | | | 36.80 | | | | | 8.00 | 7.10 | 1.0 |
| 13 | 65.00 | | | | 44.20 | | | | | 8.00 | 7.00 | 1.0 |
| 14 | 41.00 | | | | 27.60 | | | | | 7.90 | 7.00 | 1.0 |
| 15 | 50.00 | | | | 35.90 | | | | | 7.90 | 7.00 | 1.0 |
| 16 | 42.00 | | | | 35.80 | | | | | 7.90 | 7.10 | 1.0 |
| 17 | 47.00 | | | | 36.80 | | | | | 7.80 | 7.10 | 4.0 |
| 18 | 40.00 | | | | 45.40 | | | | | 7.90 | 7.10 | 4.0 |
| 19 | 30.00 | | | | 38.40 | | | | | 8.00 | 7.20 | 2.0 |
| 20 | 35.00 | | | | 42.60 | | | | | 7.80 | 7.10 | 1.0 |
| 21 | 20.00 | | | | 35.30 | | | | | 7.80 | 7.10 | 1.0 |
| 22 | 250.00 | | | | 108.50 | | | | | 8.10 | 7.20 | 1.0 |
| 23 | 200.00 | | | | 121.80 | | | | | 8.00 | 7.10 | 1.0 |
| 24 | 300.00 | | | | 113.30 | | | | | 8.00 | 7.20 | 1.0 |
| 25 | 180.00 | | | | 88.20 | | | | | 8.00 | 7.10 | 1.0 |
| 26 | 40.00 | | | | 78.60 | | | | | 8.00 | 7.10 | 1.0 |
| 27 | 30.00 | | | | 57.20 | | | | | 7.90 | 6.80 | 1.0 |
| 28 | 65.00 | | | | 46.20 | | | | | 7.90 | 6.80 | 1.0 |
| 29 | 130.00 | | | | 128.40 | | | | | 7.90 | 6.90 | 2.0 |
| 30 | 120.00 | | | | 86.90 | | | | | 7.90 | 6.90 | 4.0 |
| 31 | 100.00 | | | | 62.80 | | | | | 7.90 | 6.80 | 4.0 |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( JAN 1985 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 120.00 | | | | 128.40 | | | | | 7.90 | 7.00 | 4.0 |
| 2 | 500.00 | | | | 207.00 | | | | | 7.60 | 7.00 | 2.0 |
| 3 | 400.00 | | | | 109.50 | | | | | 7.70 | 7.20 | 1.0 |
| 4 | 500.00 | | | | 142.70 | | | | | 7.70 | 7.20 | 1.0 |
| 5 | 350.00 | | | | 112.50 | | | | | 7.70 | 7.10 | 1.0 |
| 6 | 200.00 | | | | 122.60 | | | | | 7.70 | 7.10 | 1.0 |
| 7 | 100.00 | | | ** 0.20 | 80.40 | | | | | 7.90 | 6.60 | 1.0 |
| 8 | 200.00 | | | | 102.70 | | | | | 7.70 | 6.60 | 1.0 |
| 9 | 55.00 | | | | 80.50 | | | | | 7.70 | 6.60 | 1.0 |
| 10 | 60.00 | | | | 58.90 | | | | | 7.70 | 6.80 | 1.0 |
| 11 | 45.00 | | | | 52.70 | | | | | 7.70 | 6.90 | 1.0 |
| 12 | 40.00 | | | | 68.70 | | | | | 7.80 | 6.90 | 1.0 |
| 13 | 28.00 | | | | 44.30 | | | | | 7.80 | 7.00 | 1.0 |
| 14 | 18.00 | | | | 64.00 | | | | | 7.80 | 6.90 | 0.0 |
| 15 | 25.00 | | | | 42.70 | | | | | 8.00 | 6.90 | 0.0 |
| 16 | 25.00 | | | | 36.50 | | | | | 7.90 | 7.00 | 0.0 |
| 17 | 15.00 | | | | 36.60 | | | | | 7.90 | 7.10 | 0.0 |
| 18 | 15.00 | | | | 40.60 | | | | | 7.80 | 7.10 | 0.5 |
| 19 | 20.00 | | | | 65.20 | | | | | 7.80 | 7.20 | 0.5 |
| 20 | 15.00 | | | | 45.70 | | | | | 7.80 | 7.10 | 1.0 |
| 21 | 15.00 | | | | 31.20 | | | | | 7.80 | 7.00 | 0.0 |
| 22 | 15.00 | | | | 36.10 | | | | | 7.80 | 7.10 | 0.5 |
| 23 | 20.00 | | | | 19.90 | | | | | 7.90 | 7.10 | 0.5 |
| 24 | 20.00 | | | | 26.90 | | | | | 7.90 | 7.20 | 0.5 |
| 25 | 15.00 | | | | 20.20 | | | | | 7.80 | 7.20 | 0.5 |
| 26 | 25.00 | | | | 24.60 | | | | | 7.80 | 7.10 | 0.5 |
| 27 | 20.00 | | | | 15.70 | | | | | 7.90 | 7.10 | 0.5 |
| 28 | 25.00 | | | | 27.80 | | | | | 7.90 | 7.20 | 0.5 |
| 29 | 30.00 | | | | 27.00 | | | | | 7.90 | 7.20 | 0.5 |
| 30 | 30.00 | | | | 34.30 | | | | | 7.90 | 7.10 | 0.5 |
| 31 | 35.00 | | | | 21.50 | | | | | 7.90 | 7.10 | 0.5 |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( FEB 1985 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 35.00 | | | | 39.50 | | | | | 7.90 | 7.10 | 0.5 |
| 2 | 10.00 | | | | 35.80 | | | | | 7.90 | 7.10 | 0.5 |
| 3 | 12.00 | | | | 27.70 | | | | | 7.90 | 7.10 | 0.5 |
| 4 | 10.00 | | | ** 0.09 | 29.80 | | | | | 7.80 | 7.10 | 0.5 |
| 5 | 11.00 | | | | 26.70 | | | | | 7.80 | 7.10 | 0.5 |
| 6 | 8.00 | | | | 37.40 | | | | | 7.90 | 7.10 | 0.5 |
| 7 | 15.00 | | | | 34.60 | | | | | 7.90 | 7.10 | 0.5 |
| 8 | 11.00 | | | | 27.90 | | | | | 7.90 | 7.10 | 0.5 |
| 9 | 12.00 | | | | 37.80 | | | | | 7.90 | 7.10 | 0.5 |
| 10 | 9.00 | | | | 36.80 | | | | | 7.90 | 7.00 | 0.5 |
| 11 | 20.00 | | | | 27.50 | | | | | 7.90 | 7.10 | 0.5 |
| 12 | 30.00 | | | | 35.00 | | | | | 7.90 | 7.10 | 0.5 |
| 13 | 30.00 | | | | 35.20 | | | | | 7.90 | 7.10 | 0.5 |
| 14 | 20.00 | | | | 36.80 | | | | | 7.90 | 7.10 | 0.5 |
| 15 | 20.00 | | | | 34.30 | | | | | 7.90 | 7.10 | 0.5 |
| 16 | 25.00 | | | | 27.20 | | | | | 7.80 | 7.10 | 0.5 |
| 17 | 20.00 | | | | 29.90 | | | | | 7.90 | 7.10 | 0.5 |
| 18 | 2.00 | | | | 33.70 | | | | | 7.90 | 7.10 | 0.5 |
| 19 | 10.00 | | | | 39.00 | | | | | 7.90 | 7.10 | 0.5 |
| 20 | 5.00 | | | | 20.90 | | | | | 7.90 | 7.10 | 0.5 |
| 21 | 5.00 | | | | 29.90 | | | | | 7.80 | 7.10 | 0.5 |
| 22 | 5.00 | | | | 33.50 | | | | | 7.80 | 7.10 | 0.5 |
| 23 | 5.00 | | | | 39.40 | | | | | 7.90 | 7.10 | 0.5 |
| 24 | 7.00 | | | | 61.80 | | | | | 7.90 | 6.90 | 0.5 |
| 25 | 15.00 | | | | 64.50 | | | | | 7.90 | 6.80 | 0.5 |
| 26 | 45.00 | | | | 123.70 | | | | | 7.80 | 6.90 | 0.5 |
| 27 | 130.00 | | | | 63.40 | | | | | 7.60 | 7.00 | 0.5 |
| 28 | 85.00 | | | | 80.20 | | | | | 7.00 | 6.60 | 0.5 |
| 29 | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( MAR 1985 )

| DATE | TURBIDITY (FTU) Raw * | Set. | Filter | Treat. | COAGULANT mg/L | COAG. AID mg/L | FILTER AID mg/L | METAL RES. Al (mg/L) Raw | Treat. | pH Raw | Treat. | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 85.00 | | | | 61.60 | | | | | 6.90 | 6.80 | 0.5 |
| 2 | 60.00 | | | | 39.40 | | | | | 6.90 | 6.80 | 0.5 |
| 3 | 50.00 | | | | 36.70 | | | | | 6.90 | 6.90 | 0.5 |
| 4 | 85.00 | | | ** 1.15 | 56.50 | | | | | 6.90 | 6.90 | 0.5 |
| 5 | 40.00 | | | | 47.40 | | | | | 6.90 | 6.90 | 0.5 |
| 6 | 75.00 | | | | 65.30 | | | | | 7.50 | 6.90 | 0.5 |
| 7 | 125.00 | | | | 68.80 | | | | | 7.70 | 6.80 | 0.5 |
| 8 | 95.00 | | | | 70.40 | | | | | 7.50 | 6.80 | 0.5 |
| 9 | 80.00 | | | | 61.10 | | | | | 7.70 | 6.90 | 0.5 |
| 10 | 120.00 | | | | 100.10 | | | | | 7.80 | 6.90 | 0.5 |
| 11 | 110.00 | | | | 55.90 | | | | | 7.60 | 6.70 | 0.5 |
| 12 | 55.00 | | | | 53.10 | | | | | 7.80 | 6.80 | 0.5 |
| 13 | 65.00 | | | | 51.40 | | | | | 7.60 | 6.90 | 0.5 |
| 14 | 85.00 | | | | 73.90 | | | | | 7.80 | 6.90 | 0.5 |
| 15 | 70.00 | | | | 52.80 | | | | | 7.60 | 6.90 | 0.5 |
| 16 | 65.00 | | | | 61.60 | | | | | 7.70 | 6.90 | 0.5 |
| 17 | 220.00 | | | | 78.20 | | | | | 7.70 | 6.90 | 0.5 |
| 18 | 180.00 | | | | 90.30 | | | | | 7.90 | 6.90 | 0.5 |
| 19 | 140.00 | | | | 74.20 | | | | | 7.90 | 6.80 | 0.5 |
| 20 | 90.00 | | | | 92.20 | | | | | 7.90 | 6.90 | 0.5 |
| 21 | 120.00 | | | | 88.80 | | | | | 7.90 | 6.80 | 1.0 |
| 22 | 60.00 | | | | 75.60 | | | | | 7.90 | 6.70 | 1.0 |
| 23 | 50.00 | | | | 69.40 | | | | | 7.90 | 6.90 | 1.0 |
| 24 | 50.00 | | | | 73.50 | | | | | 7.90 | 7.00 | 1.0 |
| 25 | 80.00 | | | | 76.10 | | | | | 7.90 | 7.00 | 1.0 |
| 26 | 45.00 | | | | 61.70 | | | | | 7.90 | 6.90 | 1.0 |
| 27 | 45.00 | | | | 34.30 | | | | | 7.90 | 7.00 | 1.5 |
| 28 | 20.00 | | | | 74.30 | | | | | 7.90 | 7.00 | 2.0 |
| 29 | 55.00 | | | | 160.00 | | | | | 7.90 | 6.90 | 4.0 |
| 30 | 400.00 | | | | 146.70 | | | | | 7.90 | 7.00 | 6.0 |
| 31 | 500.00 | | | | 156.00 | | | | | 8.00 | 6.80 | 4.0 |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( APR 1985 )

| DATE | TURBIDITY (FTU) Raw * | Set. | Filter | Treat. | COAGULANT mg/L | COAG. AID mg/L | FILTER AID mg/L | METAL RES. Al (mg/L) Raw | Treat. | pH Raw | Treat. | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 650.00 | | | ** 0.61 | 167.90 | | | | | 7.90 | 6.60 | 4.0 |
| 2 | 500.00 | | | | 185.20 | | | | | 8.10 | 6.80 | 2.0 |
| 3 | 250.00 | | | | 172.10 | | | | | 8.00 | 6.90 | 3.0 |
| 4 | 250.00 | | | | 121.40 | | | | | 7.90 | 6.60 | 4.0 |
| 5 | 300.00 | | | | 163.20 | | | | | 7.90 | 6.80 | 4.0 |
| 6 | 200.00 | | | | 157.60 | | | | | 7.90 | 6.90 | 5.0 |
| 7 | 500.00 | | | | 171.30 | | | | | 7.90 | 6.90 | 5.0 |
| 8 | 220.00 | | | | 175.10 | | | | | 7.80 | 6.80 | 4.0 |
| 9 | 275.00 | | | | 171.30 | | | | | 7.90 | 6.80 | 2.5 |
| 10 | 95.00 | | | | 95.10 | | | | | 7.90 | 6.80 | 3.0 |
| 11 | 140.00 | | | | 84.90 | | | | | 7.80 | 6.70 | 4.0 |
| 12 | 65.00 | | | | 41.20 | | | | | 7.90 | 6.80 | 4.0 |
| 13 | 100.00 | | | | 72.90 | | | | | 7.90 | 6.80 | 6.0 |
| 14 | 35.00 | | | | 79.80 | | | | | 7.90 | 6.80 | 8.0 |
| 15 | 55.00 | | | | 59.03 | | | | | 7.90 | 6.90 | 6.0 |
| 16 | 55.00 | | | | 85.40 | | | | | 7.90 | 6.90 | 8.0 |
| 17 | 85.00 | | | | 77.20 | | | | | 7.90 | 7.00 | 8.0 |
| 18 | 72.00 | | | | 78.20 | | | | | 7.90 | 6.90 | 7.5 |
| 19 | 80.00 | | | | 88.90 | | | | | 7.90 | 6.90 | 10.0 |
| 20 | 60.00 | | | | 77.60 | | | | | 7.80 | 6.90 | 9.0 |
| 21 | 50.00 | | | | 52.50 | | | | | 7.90 | 7.00 | 10.0 |
| 22 | 40.00 | | | | 48.60 | | | | | 7.90 | 6.90 | 10.0 |
| 23 | 33.00 | | | | 42.20 | | | | | 7.90 | 6.90 | 9.0 |
| 24 | 20.00 | | | | 54.00 | | | | | 7.90 | 6.90 | 9.0 |
| 25 | 15.00 | | | | 24.00 | | | | | 7.90 | 6.90 | 8.0 |
| 26 | 30.00 | | | | 28.80 | | | | | 7.90 | 6.90 | 10.0 |
| 27 | 25.00 | | | | 39.00 | | | | | 7.90 | 6.90 | 11.0 |
| 28 | 40.00 | | | | 44.90 | | | | | 7.90 | 6.90 | 12.0 |
| 29 | 35.00 | | | | 17.40 | | | | | 7.90 | 6.90 | 12.0 |
| 30 | 30.00 | | | | 39.00 | | | | | 7.90 | 6.90 | 12.0 |
| 31 | | | | | | | | | | | | |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( MAY 1985 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 30.00 | | | | 37.50 | | | | | 7.90 | 6.90 | 14.0 |
| 2 | 55.00 | | | | 33.70 | | | | | 7.90 | 6.90 | 14.0 |
| 3 | 55.00 | | | | 28.90 | | | | | 7.90 | 6.90 | 12.0 |
| 4 | 55.00 | | | | 29.20 | | | | | 7.90 | 6.90 | 12.0 |
| 5 | 50.00 | | | | 21.60 | | | | | 7.90 | 6.90 | 12.0 |
| 6 | 15.00 | | | ** 0.13 | 35.90 | | | | | 7.90 | 6.90 | 14.0 |
| 7 | 35.00 | | | | 26.50 | | | | | 7.90 | 6.90 | 14.0 |
| 8 | 35.00 | | | | 38.50 | | | | | 7.90 | 6.90 | 14.0 |
| 9 | 5.00 | | | | 45.60 | | | | | 7.90 | 7.00 | 13.0 |
| 10 | 25.00 | | | | 35.40 | | | | | 7.90 | 7.00 | 14.0 |
| 11 | 30.00 | | | | 35.10 | | | | | 7.90 | 7.00 | 14.0 |
| 12 | 15.00 | | | | 38.20 | | | | | 7.90 | 7.00 | 15.0 |
| 13 | 15.00 | | | | 38.10 | | | | | 7.90 | 7.00 | 15.0 |
| 14 | 35.00 | | | | 33.40 | | | | | 7.90 | 7.00 | 16.0 |
| 15 | 20.00 | | | | 42.10 | | | | | 7.90 | 7.00 | 17.0 |
| 16 | 1.00 | | | | 52.10 | | | | | 7.90 | 7.00 | 17.0 |
| 17 | 10.00 | | | | 39.40 | | | | | 7.90 | 7.00 | 17.0 |
| 18 | 35.00 | | | | 49.60 | | | | | 7.90 | 7.00 | 15.0 |
| 19 | 20.00 | | | | 42.90 | | | | | 7.90 | 7.00 | 15.0 |
| 20 | 10.00 | | | | 57.00 | | | | | 7.90 | 7.00 | 16.0 |
| 21 | 20.00 | | | | 62.30 | | | | | 7.90 | 7.00 | 16.0 |
| 22 | 7.00 | | | | 38.30 | | | | | 7.90 | 7.00 | 16.0 |
| 23 | 15.00 | | | | 45.90 | | | | | 7.90 | 7.00 | 16.0 |
| 24 | 20.00 | | | | 34.70 | | | | | 7.90 | 7.00 | 16.0 |
| 25 | 20.00 | | | | 33.10 | | | | | 7.90 | 7.00 | 16.0 |
| 26 | 15.00 | | | | 43.80 | | | | | 7.90 | 7.00 | 18.0 |
| 27 | 30.00 | | | | 39.70 | | | | | 7.90 | 7.00 | 18.0 |
| 28 | 70.00 | | | | 53.60 | | | | | 7.90 | 7.00 | 18.0 |
| 29 | 45.00 | | | | 66.10 | | | | | 7.90 | 7.00 | 18.0 |
| 30 | 35.00 | | | | 47.20 | | | | | 7.90 | 7.00 | 18.0 |
| 31 | 30.00 | | | | 28.90 | | | | | 7.90 | 7.00 | 18.0 |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( JUN 1985 )

| DATE | TURBIDITY (FTU) Raw * | Set. | Filter | Treat. | COAGULANT mg/L | COAG. AID mg/L | FILTER AID mg/L | METAL RES. Al (mg/L) Raw | Treat. | pH Raw | Treat. | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 40.00 | | | | 47.50 | | | | | 7.90 | 7.00 | 18.0 |
| 2 | 20.00 | | | | 74.00 | | | | | 7.90 | 7.00 | 18.0 |
| 3 | 60.00 | | | ** 0.06 | 33.20 | | | | | 7.90 | 7.00 | 18.0 |
| 4 | 50.00 | | | | 53.30 | | | | | 8.00 | 7.00 | 18.0 |
| 5 | 38.00 | | | | 55.60 | | | | | 7.90 | 6.90 | 18.0 |
| 6 | 42.00 | | | | 50.70 | | | | | 7.90 | 7.00 | 18.0 |
| 7 | 30.00 | | | | 47.20 | | | | | 8.00 | 7.00 | 19.0 |
| 8 | 25.00 | | | | 41.60 | | | | | 8.00 | 7.00 | 19.0 |
| 9 | 25.00 | | | | 43.00 | | | | | 8.00 | 7.00 | 19.0 |
| 10 | 40.00 | | | | 36.00 | | | | | 8.00 | 7.00 | 19.0 |
| 11 | 90.00 | | | | 30.20 | | | | | 8.00 | 7.00 | 19.0 |
| 12 | 60.00 | | | | 36.70 | | | | | 8.00 | 7.00 | 16.0 |
| 13 | 30.00 | | | | 44.50 | | | | | 8.00 | 7.00 | 15.0 |
| 14 | 35.00 | | | | 32.70 | | | | | 8.00 | 7.00 | 16.0 |
| 15 | 20.00 | | | | 6.02 | | | | | 8.00 | 7.00 | 16.0 |
| 16 | 25.00 | | | | 52.80 | | | | | 8.00 | 7.00 | 16.0 |
| 17 | 50.00 | | | | 35.90 | | | | | 8.00 | 7.00 | 17.0 |
| 18 | 40.00 | | | | 48.90 | | | | | 7.90 | 7.00 | 17.0 |
| 19 | 15.00 | | | | 50.50 | | | | | 7.20 | 7.00 | 18.0 |
| 20 | 40.00 | | | | 45.00 | | | | | 7.00 | 7.90 | 18.0 |
| 21 | 60.00 | | | | 32.90 | | | | | 7.80 | 7.80 | 18.0 |
| 22 | 50.00 | | | | 49.90 | | | | | 7.90 | 7.20 | 18.0 |
| 23 | 40.00 | | | | 58.40 | | | | | 7.90 | 7.00 | 18.0 |
| 24 | 30.00 | | | | 33.70 | | | | | 7.90 | 7.00 | 19.0 |
| 25 | 20.00 | | | | 52.10 | | | | | 7.85 | 6.90 | 19.0 |
| 26 | 15.00 | | | | 24.80 | | | | | 7.90 | 6.90 | 18.0 |
| 27 | 20.00 | | | | 30.60 | | | | | 7.85 | 6.95 | 18.5 |
| 28 | 30.00 | | | | 28.00 | | | | | 7.90 | 7.00 | 20.5 |
| 29 | 20.00 | | | | 31.90 | | | | | 7.90 | 7.00 | 21.0 |
| 30 | 18.00 | | | | 34.10 | | | | | 7.90 | 7.00 | 21.0 |
| 31 | | | | | | | | | | | | |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( JUL 1985 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 20.00 | | | | 57.90 | | | | | 7.90 | 7.00 | 21.0 |
| 2 | 15.00 | | | | 24.20 | | | | | 7.90 | 7.00 | 21.0 |
| 3 | 20.00 | | | ** 0.21 | 34.30 | | | | | 7.90 | 7.00 | 21.0 |
| 4 | 18.00 | | | | 41.80 | | | | | 7.90 | 7.00 | 21.0 |
| 5 | 20.00 | | | | 37.30 | | | | | 7.90 | 7.00 | 22.0 |
| 6 | 20.00 | | | | 27.80 | | | | | 7.90 | 7.00 | 22.0 |
| 7 | 23.00 | | | | 37.00 | | | | | 7.90 | 7.00 | 22.0 |
| 8 | 5.00 | | | | 39.10 | | | | | 7.90 | 7.00 | 21.0 |
| 9 | 32.00 | | | | 55.15 | | | | | 7.90 | 7.00 | 22.5 |
| 10 | 18.00 | | | | 43.40 | | | | | 7.90 | 7.00 | 23.0 |
| 11 | 22.00 | | | | 45.93 | | | | | 7.90 | 7.00 | 22.5 |
| 12 | 22.00 | | | | 28.20 | | | | | 7.90 | 7.00 | 22.0 |
| 13 | 20.00 | | | | 32.70 | | | | | 7.90 | 7.00 | 22.5 |
| 14 | 15.00 | | | | 30.00 | | | | | 7.90 | 7.00 | 22.5 |
| 15 | 15.00 | | | | 34.00 | | | | | 7.90 | 7.00 | 23.0 |
| 16 | 35.00 | | | | 34.00 | | | | | 7.90 | 7.00 | 24.0 |
| 17 | 15.00 | | | | 38.90 | | | | | 7.90 | 7.00 | 23.0 |
| 18 | 25.00 | | | | 41.70 | | | | | 7.90 | 7.00 | 23.0 |
| 19 | 30.00 | | | | 28.20 | | | | | 7.90 | 7.00 | 23.0 |
| 20 | 25.00 | | | | 37.90 | | | | | 7.90 | 7.00 | 23.0 |
| 21 | 25.00 | | | | 37.20 | | | | | 7.90 | 7.00 | 23.0 |
| 22 | 35.00 | | | | 29.10 | | | | | 7.90 | 7.00 | 22.0 |
| 23 | 30.00 | | | | 30.00 | | | | | 7.90 | 7.00 | 22.0 |
| 24 | 15.00 | | | | 31.50 | | | | | 7.90 | 7.00 | 22.0 |
| 25 | 20.00 | | | | 32.50 | | | | | 7.90 | 7.00 | 23.0 |
| 26 | 56.00 | | | | 31.60 | | | | | 7.90 | 7.00 | 24.0 |
| 27 | 30.00 | | | | 41.30 | | | | | 7.90 | 7.00 | 24.0 |
| 28 | 20.00 | | | | 42.50 | | | | | 7.90 | 7.00 | 24.0 |
| 29 | 30.00 | | | | 34.30 | | | | | 7.90 | 7.00 | 25.0 |
| 30 | 60.00 | | | | 49.20 | | | | | 7.90 | 7.00 | 23.5 |
| 31 | 30.00 | | | | 30.90 | | | | | 7.90 | 7.00 | 23.0 |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( AUG 1985 )

| DATE | TURBIDITY (FTU) Raw * | Set. | Filter | Treat. | COAGULANT mg/L | COAG. AID mg/L | FILTER AID mg/L | METAL RES. Al (mg/L) Raw | Treat. | pH Raw | Treat. | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 45.00 | | | | 40.50 | | | | | 7.90 | 7.00 | 21.0 |
| 2 | 50.00 | | | | 32.40 | | | | | 7.90 | 7.00 | 20.5 |
| 3 | 35.00 | | | | 36.40 | | | | | 7.90 | 7.00 | 21.0 |
| 4 | 20.00 | | | | 43.50 | | | | | 7.90 | 7.00 | 22.0 |
| 5 | 25.00 | | | | 40.90 | | | | | 7.90 | 7.00 | 22.0 |
| 6 | 10.00 | | | ** 0.08 | 44.40 | | | | | 7.90 | 7.00 | 22.0 |
| 7 | 10.00 | | | | 57.90 | | | | | 7.90 | 7.00 | 22.0 |
| 8 | 5.00 | | | | 54.90 | | | | | 7.90 | 7.00 | 22.0 |
| 9 | 22.00 | | | | 40.40 | | | | | 7.90 | 7.00 | 23.0 |
| 10 | 20.00 | | | | 38.30 | | | | | 7.90 | 7.00 | 23.0 |
| 11 | 22.00 | | | | 37.00 | | | | | 7.90 | 7.00 | 23.0 |
| 12 | 20.00 | | | | 46.30 | | | | | 7.90 | 7.00 | 22.0 |
| 13 | 22.00 | | | | 58.60 | | | | | 8.00 | 7.20 | 22.0 |
| 14 | 22.00 | | | | 51.90 | | | | | 8.10 | 7.20 | 23.0 |
| 15 | 20.00 | | | | 64.80 | | | | | 8.00 | 7.20 | 23.0 |
| 16 | 100.00 | | | | 62.40 | | | | | 8.00 | 7.10 | 23.0 |
| 17 | 15.00 | | | | 35.60 | | | | | 7.90 | 7.10 | 23.0 |
| 18 | 15.00 | | | | 25.90 | | | | | 8.00 | 7.10 | 22.0 |
| 19 | 12.00 | | | | 17.00 | | | | | 7.90 | 7.10 | 21.5 |
| 20 | 12.00 | | | | 17.70 | | | | | 7.90 | 7.10 | 21.5 |
| 21 | 5.00 | | | | 59.70 | | | | | 7.90 | 7.00 | 21.0 |
| 22 | 10.00 | | | | 24.90 | | | | | 7.90 | 7.00 | 21.0 |
| 23 | 10.00 | | | | 17.50 | | | | | 7.90 | 7.00 | 21.5 |
| 24 | 7.00 | | | | 25.40 | | | | | 7.90 | 7.00 | 21.5 |
| 25 | 5.00 | | | | 36.70 | | | | | 7.90 | 7.00 | 21.5 |
| 26 | 10.00 | | | | 30.00 | | | | | 7.90 | 7.00 | 22.0 |
| 27 | 5.00 | | | | 48.30 | | | | | 7.90 | 7.00 | 22.0 |
| 28 | 20.00 | | | | 30.00 | | | | | 7.80 | 6.90 | 22.0 |
| 29 | 15.00 | | | | 27.90 | | | | | 7.80 | 6.90 | 22.5 |
| 30 | 15.00 | | | | 19.20 | | | | | 7.90 | 6.90 | 22.5 |
| 31 | 20.00 | | | | 43.30 | | | | | 7.90 | 7.00 | 22.0 |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( SEP 1985 )

| DATE | TURBIDITY (FTU) Raw * | Set. | Filter | Treat. | COAGULANT mg/L | COAG. AID mg/L | FILTER AID mg/L | METAL RES. Al (mg/L) Raw | Treat. | pH Raw | Treat. | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 25.00 | | | | 37.00 | | | | | 8.00 | 7.00 | 20.5 |
| 2 | 20.00 | | | | 42.80 | | | | | 8.00 | 7.00 | 21.5 |
| 3 | 20.00 | | | ** 0.12 | 33.10 | | | | | 8.00 | 7.00 | 21.0 |
| 4 | 15.00 | | | | 29.50 | | | | | 8.00 | 7.00 | 23.0 |
| 5 | 12.00 | | | | 20.30 | | | | | 7.90 | 7.10 | 23.0 |
| 6 | 10.00 | | | | 30.80 | | | | | 7.90 | 7.20 | 23.5 |
| 7 | 8.00 | | | | 30.70 | | | | | 7.90 | 7.10 | 23.5 |
| 8 | 6.00 | | | | 27.60 | | | | | 7.90 | 7.20 | 24.0 |
| 9 | 2.00 | | | | 51.60 | | | | | 7.90 | 7.20 | 24.0 |
| 10 | 15.00 | | | | 24.80 | | | | | 7.90 | 7.20 | 24.0 |
| 11 | 50.00 | | | | 29.90 | | | | | 7.90 | 7.20 | 21.0 |
| 12 | 50.00 | | | | 40.40 | | | | | 8.00 | 7.10 | 20.0 |
| 13 | 52.00 | | | | 39.50 | | | | | 8.00 | 7.10 | 16.0 |
| 14 | 45.00 | | | | 35.10 | | | | | 8.00 | 7.20 | 15.0 |
| 15 | 40.00 | | | | 27.20 | | | | | 8.00 | 7.20 | 17.0 |
| 16 | 38.00 | | | | 23.80 | | | | | 8.00 | 7.10 | 17.5 |
| 17 | 40.00 | | | | 40.20 | | | | | 8.00 | 7.10 | 17.0 |
| 18 | 40.00 | | | | 43.80 | | | | | 8.00 | 7.10 | 18.5 |
| 19 | 30.00 | | | | 22.15 | | | | | 8.00 | 7.10 | 18.5 |
| 20 | 18.00 | | | | 20.50 | | | | | 7.90 | 7.10 | 19.5 |
| 21 | 25.00 | | | | 39.70 | | | | | 7.90 | 7.00 | 19.0 |
| 22 | 30.00 | | | | 51.30 | | | | | 7.90 | 7.00 | 18.5 |
| 23 | 35.00 | | | | 49.80 | | | | | 7.90 | 7.10 | 19.0 |
| 24 | 40.00 | | | | 44.20 | | | | | 7.90 | 7.00 | 19.5 |
| 25 | 35.00 | | | | 49.60 | | | | | 7.90 | 7.10 | 18.0 |
| 26 | 40.00 | | | | 43.80 | | | | | 7.90 | 7.10 | 17.0 |
| 27 | 50.00 | | | | 38.30 | | | | | 7.90 | 7.10 | 17.0 |
| 28 | 35.00 | | | | 53.50 | | | | | 7.90 | 7.00 | 16.0 |
| 29 | 35.00 | | | | 55.90 | | | | | 7.90 | 7.00 | 16.0 |
| 30 | 35.00 | | | | 41.40 | | | | | 7.90 | 7.10 | 16.5 |
| 31 | | | | | | | | | | | | |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( OCT 1985 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 45.00 | | | | 51.20 | | | | | 8.00 | 7.10 | 16.0 |
| 2 | 40.00 | | | | 47.70 | | | | | 8.00 | 7.10 | 14.5 |
| 3 | 25.00 | | | | 50.70 | | | | | 7.90 | 7.10 | 14.5 |
| 4 | 30.00 | | | | 36.20 | | | | | 7.90 | 7.20 | 14.5 |
| 5 | 20.00 | | | | 49.40 | | | | | 7.90 | 7.00 | 14.0 |
| 6 | 18.00 | | | | 73.20 | | | | | 7.90 | 7.00 | 14.0 |
| 7 | 15.00 | | | ** 0.16 | 52.50 | | | | | 7.90 | 7.10 | 13.5 |
| 8 | 10.00 | | | | 28.60 | | | | | 7.90 | 7.10 | 13.0 |
| 9 | 10.00 | | | | 50.90 | | | | | 7.90 | 7.10 | 13.0 |
| 10 | 10.00 | | | | 31.00 | | | | | 7.90 | 7.10 | 13.5 |
| 11 | 15.00 | | | | 28.70 | | | | | 7.90 | 7.20 | 13.0 |
| 12 | 15.00 | | | | 18.70 | | | | | 7.90 | 7.10 | 13.0 |
| 13 | 10.00 | | | | 42.80 | | | | | 7.90 | 7.10 | 13.0 |
| 14 | 8.00 | | | | 39.50 | | | | | 8.00 | 7.10 | 13.0 |
| 15 | 5.00 | | | | 35.40 | | | | | 7.90 | 7.10 | 14.0 |
| 16 | 20.00 | | | | 34.60 | | | | | 7.90 | 7.00 | 14.0 |
| 17 | 10.00 | | | | 39.60 | | | | | 7.90 | 7.00 | 13.0 |
| 18 | 5.00 | | | | 11.80 | | | | | 7.90 | 7.00 | 13.0 |
| 19 | 450.00 | | | | 74.30 | | | | | 7.90 | 7.00 | 13.0 |
| 20 | 500.00 | | | | 177.40 | | | | | 7.90 | 7.00 | 13.0 |
| 21 | 55.00 | | | | 70.90 | | | | | 8.00 | 7.20 | 12.0 |
| 22 | 150.00 | | | | 80.00 | | | | | 8.00 | 7.10 | 12.0 |
| 23 | 80.00 | | | | 70.00 | | | | | 7.90 | 7.00 | 12.0 |
| 24 | 115.00 | | | | 101.40 | | | | | 7.90 | 7.10 | 13.0 |
| 25 | 110.00 | | | | 97.60 | | | | | 7.90 | 7.10 | 13.5 |
| 26 | 45.00 | | | | 99.70 | | | | | 7.90 | 7.00 | 13.0 |
| 27 | 40.00 | | | | 112.20 | | | | | 7.90 | 7.00 | 13.0 |
| 28 | 60.00 | | | | 86.30 | | | | | 7.90 | 7.20 | 12.0 |
| 29 | 145.00 | | | | 48.40 | | | | | 7.90 | 7.00 | 10.0 |
| 30 | 140.00 | | | | 78.50 | | | | | 7.90 | 7.00 | 9.0 |
| 31 | 95.00 | | | | 89.90 | | | | | 7.90 | 7.00 | 9.0 |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( NOV 1985 )

| DATE | TURBIDITY (FTU) Raw * | Set. | Filter | Treat. | COAGULANT mg/L | COAG. AID mg/L | FILTER AID mg/L | METAL RES. Al (mg/L) Raw | Treat. | pH Raw | Treat. | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 55.00 | | | | 75.60 | | | | | 7.90 | 7.00 | 9.0 |
| 2 | 75.00 | | | | 78.40 | | | | | 7.90 | 7.00 | 9.0 |
| 3 | 55.00 | | | | 76.10 | | | | | 7.90 | 7.00 | 10.0 |
| 4 | 45.00 | | | ** 0.43 | 67.90 | | | | | 7.90 | 7.00 | 11.0 |
| 5 | 140.00 | | | | 120.90 | | | | | 7.90 | 7.10 | 10.0 |
| 6 | 100.00 | | | | 109.10 | | | | | 8.00 | 7.10 | 10.0 |
| 7 | 80.00 | | | | 93.80 | | | | | 8.00 | 7.00 | 9.0 |
| 8 | 90.00 | | | | 84.70 | | | | | 7.90 | 7.00 | 8.5 |
| 9 | 85.00 | | | | 100.70 | | | | | 7.90 | 7.00 | 8.0 |
| 10 | 85.00 | | | | 122.50 | | | | | 8.00 | 7.20 | 8.0 |
| 11 | 140.00 | | | | 137.90 | | | | | 8.00 | 7.20 | 6.0 |
| 12 | 500.00 | | | | 125.80 | | | | | 8.10 | 7.20 | 6.0 |
| 13 | 300.00 | | | | 126.80 | | | | | 8.00 | 7.10 | 6.5 |
| 14 | 140.00 | | | | 111.50 | | | | | 8.00 | 7.10 | 7.0 |
| 15 | 180.00 | | | | 132.40 | | | | | 7.90 | 7.10 | 7.0 |
| 16 | 500.00 | | | | 122.70 | | | | | 7.90 | 7.00 | 7.0 |
| 17 | 300.00 | | | | 153.50 | | | | | 7.90 | 7.00 | 7.0 |
| 18 | 200.00 | | | | 135.10 | | | | | 7.90 | 7.10 | 7.0 |
| 19 | 300.00 | | | | 138.90 | | | | | 7.90 | 7.10 | 8.0 |
| 20 | 250.00 | | | | 132.80 | | | | | 7.70 | 7.00 | 9.0 |
| 21 | 280.00 | | | | 159.00 | | | | | 7.70 | 6.90 | 7.0 |
| 22 | 400.00 | | | | 119.20 | | | | | 7.70 | 6.70 | 5.0 |
| 23 | 250.00 | | | | 122.00 | | | | | 7.70 | 6.80 | 5.0 |
| 24 | 180.00 | | | | 125.00 | | | | | 7.70 | 6.80 | 4.0 |
| 25 | 150.00 | | | | 104.30 | | | | | 7.70 | 6.60 | 4.0 |
| 26 | 160.00 | | | | 124.60 | | | | | 7.70 | 6.90 | 4.0 |
| 27 | 100.00 | | | | 132.20 | | | | | 7.90 | 6.90 | 4.0 |
| 28 | 220.00 | | | | 127.00 | | | | | 7.90 | 6.50 | 3.0 |
| 29 | 180.00 | | | | 106.20 | | | | | 7.90 | 6.70 | 3.0 |
| 30 | 350.00 | | | | 121.60 | | | | | 7.90 | 7.10 | 3.0 |
| 31 | | | | | | | | | | | | |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( DEC 1985 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 100.00 | | | | 110.70 | | | | | 7.90 | 7.00 | 3.0 |
| 2 | 120.00 | | | ** 0.12 | 156.30 | | | | | 7.90 | 6.80 | 3.0 |
| 3 | 200.00 | | | | 95.00 | | | | | 7.90 | 6.80 | 1.0 |
| 4 | 70.00 | | | | 111.10 | | | | | 7.90 | 6.80 | 1.0 |
| 5 | 120.00 | | | | 124.90 | | | | | 7.90 | 6.80 | 1.0 |
| 6 | 130.00 | | | | 94.30 | | | | | 7.90 | 6.80 | 1.0 |
| 7 | 40.00 | | | | 86.70 | | | | | 7.90 | 6.70 | 1.0 |
| 8 | 60.00 | | | | 114.10 | | | | | 7.90 | 6.70 | 1.0 |
| 9 | 60.00 | | | | 90.10 | | | | | 7.90 | 6.70 | 2.0 |
| 10 | 45.00 | | | | 113.50 | | | | | 7.90 | 6.70 | 2.0 |
| 11 | 55.00 | | | | 115.40 | | | | | 7.90 | 6.70 | 2.0 |
| 12 | 65.00 | | | | 112.50 | | | | | 7.90 | 6.80 | 2.0 |
| 13 | 110.00 | | | | 81.90 | | | | | 7.90 | 6.80 | 2.0 |
| 14 | 80.00 | | | | 103.60 | | | | | 7.90 | 7.00 | 1.0 |
| 15 | 50.00 | | | | 98.40 | | | | | 7.90 | 7.00 | 1.0 |
| 16 | 50.00 | | | | 82.80 | | | | | 7.90 | 6.90 | 1.0 |
| 17 | 45.00 | | | | 99.00 | | | | | 7.90 | 6.90 | 0.5 |
| 18 | 40.00 | | | | 66.70 | | | | | 7.90 | 7.00 | 0.5 |
| 19 | 35.00 | | | | 53.10 | | | | | 7.90 | 7.00 | 1.0 |
| 20 | 30.00 | | | | 46.00 | | | | | 7.90 | 7.00 | 1.0 |
| 21 | 30.00 | | | | 56.40 | | | | | 7.90 | 7.00 | 1.0 |
| 22 | 25.00 | | | | 81.20 | | | | | 7.90 | 7.00 | 1.0 |
| 23 | 35.00 | | | | 51.70 | | | | | 7.90 | 7.00 | 1.0 |
| 24 | 30.00 | | | | 50.60 | | | | | 7.90 | 7.00 | 1.0 |
| 25 | 30.00 | | | | 47.80 | | | | | 7.90 | 7.00 | 1.0 |
| 26 | 25.00 | | | | 33.60 | | | | | 7.90 | 7.00 | 1.0 |
| 27 | 30.00 | | | | 56.70 | | | | | 7.90 | 7.00 | 1.0 |
| 28 | 30.00 | | | | 48.60 | | | | | 7.90 | 7.00 | 1.0 |
| 29 | 22.00 | | | | 39.30 | | | | | 7.90 | 7.00 | 1.0 |
| 30 | 25.00 | | | | 35.80 | | | | | 7.90 | 7.00 | 1.0 |
| 31 | 25.00 | | | | 17.90 | | | | | 7.90 | 7.00 | 1.0 |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( JAN 1986 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 22.00 | | | | 35.70 | | | | | 7.90 | 7.00 | 1.0 |
| 2 | 20.00 | | | | 39.50 | | | | | 7.90 | 7.00 | 1.0 |
| 3 | 18.00 | | | | 36.90 | | | | | 7.90 | 7.00 | 1.0 |
| 4 | 20.00 | | | | 34.10 | | | | | 7.90 | 7.00 | 1.0 |
| 5 | 20.00 | | | | 39.70 | | | | | 7.90 | 7.00 | 1.0 |
| 6 | 10.00 | | | ** 0.60 | 32.40 | | | | | 7.90 | 7.00 | 1.0 |
| 7 | 15.00 | | | | 31.90 | | | | | 7.90 | 7.00 | 1.0 |
| 8 | 15.00 | | | | 36.70 | | | | | 7.90 | 7.00 | 1.0 |
| 9 | 15.00 | | | | 35.40 | | | | | 7.90 | 7.00 | 1.5 |
| 10 | 15.00 | | | | 27.70 | | | | | 7.90 | 7.00 | 2.0 |
| 11 | 5.00 | | | | 26.80 | | | | | 7.90 | 7.00 | 1.5 |
| 12 | 5.00 | | | | 37.00 | | | | | 7.90 | 7.00 | 1.5 |
| 13 | 0.10 | | | | 27.20 | | | | | 7.90 | 7.00 | 2.0 |
| 14 | 0.10 | | | | 20.80 | | | | | 7.50 | 7.10 | 1.5 |
| 15 | 0.10 | | | | 28.30 | | | | | 7.50 | 7.10 | 2.0 |
| 16 | 0.10 | | | | 20.40 | | | | | 7.70 | 7.10 | 2.0 |
| 17 | 0.10 | | | | 20.40 | | | | | 7.70 | 7.00 | 2.0 |
| 18 | 0.10 | | | | 20.40 | | | | | 7.70 | 7.00 | 2.0 |
| 19 | 0.10 | | | | 28.10 | | | | | 7.70 | 7.00 | 2.0 |
| 20 | 0.10 | | | | 28.30 | | | | | 7.70 | 7.10 | 1.5 |
| 21 | 2.00 | | | | 42.40 | | | | | 7.80 | 7.10 | 1.0 |
| 22 | 35.00 | | | | 41.50 | | | | | 7.90 | 7.00 | 2.0 |
| 23 | 10.00 | | | | 13.90 | | | | | 7.90 | 7.00 | 2.0 |
| 24 | 10.00 | | | | 21.60 | | | | | 7.90 | 7.00 | 2.0 |
| 25 | 5.00 | | | | 14.40 | | | | | 7.90 | 7.00 | 2.0 |
| 26 | 6.00 | | | | 41.20 | | | | | 7.90 | 7.00 | 2.0 |
| 27 | 5.00 | | | | 26.40 | | | | | 7.90 | 7.00 | 1.0 |
| 28 | 3.00 | | | | 20.60 | | | | | 7.90 | 7.00 | 1.0 |
| 29 | 10.00 | | | | 20.80 | | | | | 7.90 | 7.00 | 1.0 |
| 30 | 5.00 | | | | 21.20 | | | | | 7.90 | 7.00 | 1.0 |
| 31 | 0.10 | | | | 19.00 | | | | | 7.90 | 7.00 | 1.0 |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( FEB 1986 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw * | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 0.10 | | | | 20.60 | | | | | 7.90 | 7.10 | 1.0 |
| 2 | 2.00 | | | | 20.80 | | | | | 7.90 | 7.00 | 1.5 |
| 3 | 0.10 | | | ** 0.10 | 28.40 | | | | | 7.90 | 7.00 | 1.0 |
| 4 | 12.00 | | | | 21.70 | | | | | 7.90 | 7.00 | 1.0 |
| 5 | 15.00 | | | | 28.30 | | | | | 7.90 | 7.00 | 1.5 |
| 6 | 50.00 | | | | 26.30 | | | | | 7.90 | 7.00 | 2.0 |
| 7 | 350.00 | | | | 113.50 | | | | | 7.90 | 7.00 | 2.0 |
| 8 | 100.00 | | | | 92.00 | | | | | 7.70 | 7.00 | 1.5 |
| 9 | 70.00 | | | | 83.30 | | | | | 7.70 | 6.80 | 1.5 |
| 10 | 15.00 | | | | 55.50 | | | | | 7.70 | 6.70 | 1.0 |
| 11 | 18.00 | | | | 35.60 | | | | | 7.90 | 7.00 | 2.0 |
| 12 | 10.00 | | | | 41.70 | | | | | 7.90 | 7.00 | 2.0 |
| 13 | 15.00 | | | | 34.30 | | | | | 7.90 | 7.00 | 1.5 |
| 14 | 15.00 | | | | 35.80 | | | | | 7.90 | 7.00 | 2.0 |
| 15 | 15.00 | | | | 40.00 | | | | | 7.70 | 7.00 | 2.0 |
| 16 | 15.00 | | | | 46.80 | | | | | 7.70 | 6.80 | 2.0 |
| 17 | 10.00 | | | | 22.50 | | | | | 7.70 | 6.80 | 2.0 |
| 18 | 12.00 | | | | 24.00 | | | | | 7.70 | 6.80 | 2.0 |
| 19 | 12.00 | | | | 40.20 | | | | | 7.80 | 6.80 | 2.0 |
| 20 | 10.00 | | | | 24.20 | | | | | 7.70 | 7.10 | 2.0 |
| 21 | 20.00 | | | | 35.30 | | | | | 7.70 | 7.00 | 2.0 |
| 22 | 20.00 | | | | 22.70 | | | | | 7.80 | 7.00 | 2.0 |
| 23 | 18.00 | | | | 23.20 | | | | | 7.80 | 7.00 | 2.0 |
| 24 | 15.00 | | | | 34.40 | | | | | 7.70 | 7.00 | 1.0 |
| 25 | 15.00 | | | | 22.70 | | | | | 7.80 | 7.00 | 1.0 |
| 26 | 15.00 | | | | 23.30 | | | | | 7.80 | 7.00 | 1.0 |
| 27 | 50.00 | | | | 35.10 | | | | | 7.80 | 7.10 | 1.0 |
| 28 | 15.00 | | | | 32.10 | | | | | 7.60 | 6.90 | 0.5 |
| 29 | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | |

* Test was done on a DR2 spectrophotometer, which is not valid for low levels in treated water.
** MOE Lab test results.

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( MAR 1986 )

| DATE | TURBIDITY (FTU) Raw | Set. | Filter | Treat. | COAGULANT mg/L | COAG. AID mg/L | FILTER AID mg/L | METAL RES. Al (mg/L) Raw | Treat. | pH Raw | Treat. | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 26.00 | | | 0.05 | 32.10 | | | | | 7.60 | 6.80 | 0.5 |
| 2 | 21.00 | | | 0.08 | 34.70 | | | | | 7.60 | 6.80 | 0.5 |
| 3 | 13.30 | 3.50 | 0.28 | 0.07 | 45.50 | | | | | 7.60 | 6.80 | 1.5 |
| 4 | 13.60 | 1.90 | 0.18 | 0.08 | 46.50 | | | | | 7.40 | 6.90 | 3.0 |
| 5 | 12.00 | 1.40 | 0.07 | 0.07 | 34.60 | | | | | 7.40 | 6.90 | 3.0 |
| 6 | 35.00 | 5.40 | 0.16 | 0.14 | 86.30 | | | | | 7.60 | 7.00 | 2.0 |
| 7 | 46.00 | 3.20 | 0.18 | 0.25 | 59.40 | | | | | 7.50 | 6.80 | 2.0 |
| 8 | 25.00 | 9.70 | 0.09 | 0.11 | 56.20 | | | | | 7.60 | 6.90 | 2.0 |
| 9 | 12.60 | 2.80 | 0.08 | 0.06 | 45.10 | | | | | 7.60 | 6.90 | 2.0 |
| 10 | 10.10 | 3.50 | 0.08 | 0.13 | 36.90 | | | | | 7.60 | 6.90 | 2.0 |
| 11 | 171.00 | 28.40 | 0.20 | 0.19 | 113.50 | | | | | 7.90 | 6.90 | 2.0 |
| 12 | 159.00 | 14.30 | 0.09 | 0.14 | 85.30 | | | | | 7.90 | 6.90 | 2.0 |
| 13 | 124.00 | 6.10 | 0.07 | 0.07 | 80.70 | | | | | 7.90 | 6.90 | 2.0 |
| 14 | 140.00 | 8.70 | 0.10 | 0.06 | 72.20 | | | | | 7.90 | 6.90 | 2.0 |
| 15 | 140.00 | 7.40 | 0.08 | 0.06 | 93.70 | | | | | 7.80 | 7.00 | 2.0 |
| 16 | 142.00 | 6.20 | 0.10 | 0.07 | 89.00 | | | | | 7.80 | 6.90 | 3.0 |
| 17 | 63.00 | 7.20 | 0.12 | 0.09 | 72.80 | | | | | 7.60 | 6.50 | 3.0 |
| 18 | 39.00 | 3.20 | 0.05 | 0.05 | 78.00 | | | | | 7.70 | 6.80 | 4.0 |
| 19 | 34.00 | 11.60 | 0.07 | 0.07 | 142.40 | | | | | 7.60 | 6.80 | 3.0 |
| 20 | 500.00 | 11.50 | 0.09 | 0.07 | 170.50 | | | | | 7.90 | 6.50 | 2.0 |
| 21 | 59.00 | 6.75 | 0.07 | 0.06 | 99.00 | | | | | 7.80 | 6.70 | 2.0 |
| 22 | 30.00 | 2.50 | 0.03 | 0.05 | 58.30 | | | | | 7.80 | 6.90 | 2.0 |
| 23 | 22.00 | 2.20 | 0.04 | 0.05 | 59.80 | | | | | 7.90 | 7.00 | 2.0 |
| 24 | 82.00 | 4.90 | 0.07 | 0.05 | 58.80 | | | | | 7.90 | 6.90 | 2.0 |
| 25 | 38.00 | 2.80 | 0.06 | 0.04 | 67.50 | | | | | 7.80 | 7.00 | 4.0 |
| 26 | 32.00 | 2.80 | 0.06 | 0.07 | 68.90 | | | | | 7.70 | 7.00 | 5.0 |
| 27 | 65.00 | 2.60 | 0.05 | 0.07 | 82.70 | | | | | 7.80 | 6.80 | 7.0 |
| 28 | 40.00 | 2.60 | 0.04 | 0.05 | 42.50 | | | | | 7.70 | 6.90 | 7.0 |
| 29 | 18.20 | 1.40 | 0.04 | 0.05 | 43.80 | | | | | 7.80 | 6.90 | 7.0 |
| 30 | 24.00 | 1.70 | 0.04 | 0.05 | 50.20 | | | | | 7.80 | 6.90 | 7.0 |
| 31 | 39.00 | 2.90 | 0.07 | 0.04 | 57.40 | | | | | 7.80 | 6.90 | 7.0 |

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( APR 1986 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 21.00 | 2.40 | 0.07 | 0.03 | 50.90 | | | | | 7.90 | 7.00 | 7.0 |
| 2 | 35.00 | 1.90 | 0.06 | 0.04 | 52.40 | | | | | 7.70 | 6.90 | 8.0 |
| 3 | 31.00 | 2.70 | 0.07 | 0.05 | 41.50 | | | | | 7.90 | 6.90 | 9.0 |
| 4 | 16.90 | 2.30 | 0.06 | 0.04 | 65.30 | | | | | 7.90 | 6.90 | 10.5 |
| 5 | 50.00 | 2.30 | 0.09 | 0.05 | 52.70 | | | | | 7.90 | 6.90 | 10.0 |
| 6 | 17.30 | 4.50 | 0.09 | 0.05 | 47.50 | | | | | 7.80 | 6.90 | 10.0 |
| 7 | 17.10 | 3.00 | 0.11 | 0.06 | 51.70 | | | | | 7.90 | 7.10 | 11.0 |
| 8 | 45.00 | 1.83 | 0.09 | 0.06 | 94.00 | | | | | 7.90 | 7.10 | 12.0 |
| 9 | 68.00 | 1.57 | 0.11 | 0.05 | 70.10 | | | | | 7.90 | 7.00 | 11.0 |
| 10 | 73.00 | 3.04 | 0.08 | 0.05 | 75.90 | | | | | 7.80 | 6.90 | 7.0 |
| 11 | 54.00 | 2.03 | 0.08 | 0.06 | 89.90 | | | | | 7.90 | 6.90 | 6.0 |
| 12 | 32.00 | 1.40 | 0.08 | 0.04 | 51.70 | | | | | 7.90 | 7.00 | 7.0 |
| 13 | 46.00 | 1.82 | 0.08 | 0.07 | 53.10 | | | | | 7.90 | 7.10 | 7.0 |
| 14 | 35.00 | 2.10 | 0.05 | 0.12 | 49.30 | | | | | 7.90 | 6.90 | 9.0 |
| 15 | 35.00 | 1.80 | 0.06 | 0.05 | 59.90 | | | | | 7.80 | 7.00 | 10.0 |
| 16 | 29.00 | 1.20 | 0.07 | 0.07 | 60.10 | | | | | 7.80 | 7.00 | 9.0 |
| 17 | 52.00 | 0.93 | 0.65 | 0.65 | 68.40 | | | | | 7.90 | 7.10 | 9.0 |
| 18 | 47.00 | 0.96 | 0.07 | 0.04 | 78.90 | | | | | 7.80 | 7.00 | 10.0 |
| 19 | 40.00 | 0.98 | 0.08 | 0.04 | 53.80 | | | | | 7.90 | 7.00 | 10.0 |
| 20 | 35.00 | 0.93 | 0.06 | 0.05 | 72.40 | | | | | 7.90 | 7.00 | 10.5 |
| 21 | 31.00 | 1.03 | 0.08 | 0.06 | 75.50 | | | | | 7.90 | 7.00 | 10.0 |
| 22 | 41.00 | 1.07 | 0.06 | 0.06 | 63.00 | | | | | 7.80 | 7.00 | 9.0 |
| 23 | 42.00 | 5.25 | 0.05 | 0.06 | 71.20 | | | | | 7.90 | 7.00 | 7.0 |
| 24 | 32.00 | 5.60 | 0.07 | 0.07 | 64.20 | | | | | 7.90 | 6.90 | 9.0 |
| 25 | 24.00 | 2.25 | 0.09 | 0.07 | 65.40 | | | | | 7.90 | 6.90 | 9.0 |
| 26 | 13.50 | 1.66 | 0.08 | 0.06 | 56.30 | | | | | 7.80 | 6.90 | 10.0 |
| 27 | 28.00 | 1.80 | 0.07 | 0.06 | 47.00 | | | | | 7.90 | 7.00 | 10.0 |
| 28 | 28.00 | 1.98 | 0.06 | 0.06 | 45.40 | | | | | 7.90 | 6.90 | 11.0 |
| 29 | 24.00 | 2.80 | 0.06 | 0.06 | 52.30 | | | | | 7.90 | 7.00 | 12.0 |
| 30 | 17.50 | 1.35 | 0.05 | 0.06 | 56.30 | | | | | 7.90 | 7.00 | 11.0 |
| 31 | | | | | | | | | | | | |

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( MAY 1986 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 13.40 | 1.41 | 0.05 | 0.05 | 64.20 | | | | | 7.90 | 6.90 | 11.0 |
| 2 | 75.00 | 1.44 | 0.08 | 0.06 | 59.50 | | | | | 7.90 | 6.90 | 11.5 |
| 3 | 30.00 | 3.00 | 0.71 | 0.06 | 38.00 | | | | | 7.90 | 7.00 | 10.5 |
| 4 | 24.00 | 1.84 | 0.07 | 0.05 | 30.50 | | | | | 7.90 | 6.90 | 11.0 |
| 5 | 28.00 | 1.60 | 0.08 | 0.07 | 27.30 | | | | | 7.90 | 6.90 | 11.0 |
| 6 | 22.00 | 1.90 | 0.07 | 0.06 | 40.10 | | | | | 7.70 | 6.90 | 12.0 |
| 7 | 14.10 | 1.20 | 0.07 | 0.06 | 48.10 | | | | | 7.80 | 7.00 | 13.0 |
| 8 | 29.00 | 2.90 | 0.06 | 0.04 | 38.00 | | | | | 7.90 | 6.95 | 13.0 |
| 9 | 25.00 | 1.00 | 0.07 | 0.06 | 50.60 | | | | | 7.90 | 6.90 | 13.5 |
| 10 | 20.00 | 1.10 | 0.07 | 0.05 | 38.10 | | | | | 7.90 | 6.90 | 14.0 |
| 11 | 23.00 | 1.40 | 0.08 | 0.04 | 33.60 | | | | | 7.90 | 6.90 | 15.0 |
| 12 | 19.00 | 1.70 | 0.07 | 0.06 | 48.80 | | | | | 7.80 | 6.90 | 16.0 |
| 13 | 23.00 | 0.72 | 0.07 | 0.07 | 46.30 | | | | | 7.90 | 6.90 | 17.0 |
| 14 | 17.50 | 2.90 | 0.07 | 0.06 | 38.30 | | | | | 7.90 | 6.80 | 16.5 |
| 15 | 13.60 | 1.08 | 0.07 | 0.06 | 31.60 | | | | | 7.80 | 6.90 | 16.5 |
| 16 | 13.90 | 0.65 | 0.07 | 0.06 | 56.50 | | | | | 7.90 | 6.90 | 16.0 |
| 17 | 13.60 | 1.02 | 0.08 | 0.06 | 37.50 | | | | | 7.90 | 6.90 | 16.5 |
| 18 | 8.30 | 0.97 | 0.07 | 0.07 | 63.80 | | | | | 7.90 | 6.80 | 14.0 |
| 19 | 19.00 | 1.74 | 0.06 | 0.05 | 73.00 | | | | | 7.80 | 6.90 | 15.0 |
| 20 | 43.00 | 2.60 | 0.06 | 0.06 | 67.30 | | | | | 7.80 | 6.80 | 14.0 |
| 21 | 26.00 | 1.30 | 0.06 | 0.05 | 72.10 | | | | | 7.90 | 6.80 | 13.0 |
| 22 | 20.00 | 2.27 | 0.05 | 0.05 | 72.60 | | | | | 7.90 | 6.80 | 13.0 |
| 23 | 19.00 | 2.90 | 0.07 | 0.05 | 68.40 | | | | | 7.90 | 6.80 | 13.0 |
| 24 | 21.00 | 1.46 | 0.06 | 0.06 | 42.30 | | | | | 7.90 | 6.80 | 13.0 |
| 25 | 20.00 | 1.90 | 0.06 | 0.05 | 47.70 | | | | | 7.90 | 6.90 | 13.0 |
| 26 | 9.60 | 1.26 | 0.06 | 0.06 | 40.50 | | | | | 7.80 | 7.00 | 16.0 |
| 27 | 11.80 | 1.06 | 0.08 | 0.06 | 34.50 | | | | | 7.80 | 7.00 | 12.0 |
| 28 | 8.20 | 0.81 | 0.08 | 0.06 | 39.40 | | | | | 7.80 | 6.90 | 13.0 |
| 29 | 15.80 | 1.10 | 0.07 | 0.07 | 53.90 | | | | | 7.80 | 6.80 | 13.0 |
| 30 | 14.10 | 1.30 | 0.08 | 0.06 | 35.10 | | | | | 7.80 | 6.90 | 13.0 |
| 31 | 12.20 | 1.12 | 0.08 | 0.06 | 23.60 | | | | | 7.90 | 7.00 | 17.0 |

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( JUN 1986 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 13.00 | 1.00 | 0.10 | 0.09 | 50.40 | | | | | 7.90 | 7.00 | 18.0 |
| 2 | 63.00 | 1.00 | 0.08 | 0.06 | 86.00 | | | | | 8.10 | 7.20 | 18.0 |
| 3 | 27.00 | 1.00 | 0.08 | 0.06 | 68.10 | | | | | 7.90 | 7.00 | 16.0 |
| 4 | 34.00 | 2.30 | 0.07 | 0.06 | 55.10 | | | | | 7.70 | 7.00 | 17.0 |
| 5 | 42.00 | 1.60 | 0.07 | 0.09 | 49.60 | | | | | 7.70 | 7.00 | 18.0 |
| 6 | 55.00 | 1.60 | 0.09 | 0.12 | 69.60 | | | | | 7.70 | 7.00 | 18.0 |
| 7 | 32.00 | 2.00 | 0.09 | 0.09 | 61.50 | | | | | 7.80 | 6.90 | 18.0 |
| 8 | 24.00 | 1.01 | 0.07 | 0.09 | 69.30 | | | | | 7.80 | 6.90 | 18.0 |
| 9 | 71.00 | 2.10 | 0.07 | 0.08 | 63.40 | | | | | 7.80 | 7.00 | 19.0 |
| 10 | 26.00 | 2.60 | 0.08 | 0.08 | 50.30 | | | | | 7.70 | 6.90 | 19.0 |
| 11 | 30.00 | 1.33 | 0.08 | 0.06 | 80.90 | | | | | 7.80 | 6.80 | 18.0 |
| 12 | 30.00 | 1.28 | 0.07 | 0.08 | 112.40 | | | | | 7.80 | 6.80 | 18.5 |
| 13 | 250.00 | 1.72 | 0.07 | 0.09 | 142.60 | | | | | 7.80 | 6.90 | 19.0 |
| 14 | 43.00 | 1.56 | 0.07 | 0.07 | 114.50 | | | | | 7.80 | 6.90 | 19.0 |
| 15 | 26.00 | 1.23 | 0.07 | 0.07 | 83.60 | | | | | 7.90 | 6.80 | 18.5 |
| 16 | 37.00 | 1.26 | 0.06 | 0.07 | 108.70 | | | | | 7.50 | 6.50 | 18.0 |
| 17 | 99.00 | 1.10 | 0.06 | 0.06 | 110.30 | | | | | 7.90 | 6.70 | 19.0 |
| 18 | 45.00 | 1.30 | 0.06 | 0.04 | 108.70 | | | | | 7.90 | 6.60 | 18.0 |
| 19 | 41.00 | 2.10 | 0.07 | 0.65 | 75.50 | | | | | 7.80 | 6.70 | 18.5 |
| 20 | 40.00 | 1.37 | 0.06 | 0.07 | 69.40 | | | | | 7.10 | 6.80 | 19.0 |
| 21 | 82.00 | 1.28 | 0.06 | 0.06 | 58.90 | | | | | 7.60 | 6.90 | 19.0 |
| 22 | 31.00 | 1.10 | 0.06 | 0.08 | 37.10 | | | | | 7.70 | 6.90 | 19.0 |
| 23 | 26.00 | 1.57 | 0.07 | 0.06 | 41.40 | | | | | 7.70 | 6.70 | 20.0 |
| 24 | 39.00 | 1.40 | 0.08 | 0.09 | 34.30 | | | | | 7.90 | 6.90 | 21.0 |
| 25 | 44.00 | 3.80 | 0.08 | 0.09 | 29.90 | | | | | 7.90 | 6.90 | 19.0 |
| 26 | 27.00 | 1.80 | 0.06 | 0.05 | 32.00 | | | | | 7.60 | 6.90 | 20.0 |
| 27 | 15.80 | 1.10 | 0.07 | 0.05 | 16.90 | | | | | 6.90 | 6.90 | 19.0 |
| 28 | 18.00 | 1.10 | 0.07 | 0.06 | 27.80 | | | | | 6.90 | 6.90 | 19.0 |
| 29 | 21.00 | 2.40 | 0.08 | 0.08 | 53.90 | | | | | 7.70 | 6.90 | 20.0 |
| 30 | 63.00 | 3.60 | 0.09 | 0.07 | 22.90 | | | | | 7.90 | 7.00 | 21.0 |
| 31 | | | | | | | | | | | | |

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( JUL 1986 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 31.00 | 2.10 | 0.08 | 0.06 | 29.40 | | | | | 7.90 | 7.00 | 21.0 |
| 2 | 17.70 | 1.38 | 0.05 | 0.07 | 22.80 | | | | | 7.90 | 7.00 | 20.5 |
| 3 | 24.00 | 0.89 | 0.08 | 0.08 | 21.20 | | | | | 7.90 | 6.90 | 21.0 |
| 4 | 26.00 | 1.11 | 0.08 | 0.07 | 43.30 | | | | | 7.90 | 7.00 | 21.0 |
| 5 | 19.00 | 1.27 | 0.07 | 0.60 | 35.90 | | | | | 7.70 | 6.90 | 21.0 |
| 6 | 31.00 | 1.09 | 0.08 | 0.09 | 31.20 | | | | | 7.90 | 6.90 | 22.0 |
| 7 | 25.00 | 2.20 | 0.09 | 0.09 | 26.40 | | | | | 7.90 | 7.00 | 22.0 |
| 8 | 17.40 | 2.70 | 0.10 | 0.09 | 32.90 | | | | | 7.70 | 7.00 | 22.0 |
| 9 | 10.30 | 1.19 | 0.08 | 0.07 | 39.80 | | | | | 7.90 | 6.90 | 22.0 |
| 10 | 18.10 | 1.97 | 0.09 | 0.08 | 42.90 | | | | | 7.90 | 6.90 | 22.0 |
| 11 | 22.00 | 1.31 | 0.06 | 0.06 | 41.20 | | | | | 7.90 | 6.90 | 22.0 |
| 12 | 16.00 | 1.20 | 0.07 | 0.06 | 47.10 | | | | | 7.90 | 7.00 | 22.0 |
| 13 | 38.00 | 1.25 | 0.07 | 0.07 | 107.10 | | | | | 7.90 | 7.00 | 22.0 |
| 14 | 41.00 | 1.92 | 0.09 | 0.08 | 53.80 | | | | | 7.80 | 6.70 | 22.0 |
| 15 | 40.00 | 2.10 | 0.08 | 0.08 | 41.50 | | | | | 7.90 | 6.80 | 22.0 |
| 16 | 27.00 | 2.30 | 0.08 | 0.07 | 35.10 | | | | | 7.80 | 6.80 | 22.0 |
| 17 | 29.00 | 1.74 | 0.08 | 0.09 | 28.20 | | | | | 7.70 | 7.00 | 21.0 |
| 18 | 33.00 | 3.40 | 0.07 | 0.07 | 34.00 | | | | | 7.80 | 7.00 | 22.0 |
| 19 | 20.00 | 4.50 | 0.07 | 0.07 | 42.60 | | | | | 7.90 | 6.80 | 22.0 |
| 20 | 18.00 | 1.43 | 0.08 | 0.08 | 54.80 | | | | | 7.90 | 6.80 | 22.0 |
| 21 | 37.00 | 0.67 | 0.08 | 0.08 | 66.40 | | | | | 7.90 | 6.90 | 25.0 |
| 22 | 30.00 | 0.21 | 0.07 | 0.07 | 62.60 | | | | | 7.90 | 6.90 | 25.0 |
| 23 | 32.00 | 1.98 | 0.07 | 0.06 | 44.60 | | | | | 7.90 | 6.80 | 25.0 |
| 24 | 28.00 | 0.88 | 0.08 | 0.08 | 49.50 | | | | | 7.90 | 6.90 | 25.0 |
| 25 | 22.00 | 0.78 | 0.07 | 0.07 | 51.30 | | | | | 7.90 | 6.80 | 24.0 |
| 26 | 24.00 | 0.84 | 0.07 | 0.07 | 45.50 | | | | | 7.90 | 6.90 | 24.0 |
| 27 | 34.00 | 1.10 | 0.06 | 0.07 | 42.00 | | | | | 7.90 | 7.00 | 24.0 |
| 28 | 23.00 | 1.10 | 0.09 | 0.07 | 48.10 | | | | | 7.90 | 6.90 | 24.0 |
| 29 | 39.00 | 2.50 | 0.08 | 0.07 | 40.90 | | | | | 7.90 | 7.00 | 24.0 |
| 30 | 29.00 | 1.21 | 0.08 | 0.06 | 35.60 | | | | | 7.90 | 7.00 | 23.0 |
| 31 | 25.00 | 1.70 | 0.07 | 0.07 | 52.50 | | | | | 7.90 | 7.00 | 24.0 |

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( AUG 1986 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 24.00 | 0.92 | 0.09 | 0.08 | 35.00 | | | | | 7.90 | 7.00 | 24.0 |
| 2 | 22.00 | 1.00 | 0.08 | 0.07 | 45.50 | | | | | 7.90 | 7.00 | 25.0 |
| 3 | 25.00 | 1.40 | 0.09 | 0.09 | 44.00 | | | | | 7.90 | 7.00 | 25.0 |
| 4 | 23.00 | 1.80 | 0.09 | 0.07 | 57.40 | | | | | 7.90 | 7.00 | 25.0 |
| 5 | 25.00 | 1.50 | 0.09 | 0.10 | 38.60 | | | | | 7.90 | 7.10 | 24.0 |
| 6 | 11.30 | 0.95 | 0.08 | 0.09 | 40.00 | | | | | 7.90 | 7.00 | 24.0 |
| 7 | 23.00 | 0.47 | 0.08 | 0.08 | 35.90 | | | | | 7.90 | 7.00 | 24.0 |
| 8 | 13.60 | 0.69 | 0.07 | 0.08 | 56.60 | | | | | 7.90 | 7.00 | 24.0 |
| 9 | 24.00 | 1.30 | 0.08 | 0.07 | 46.60 | | | | | 7.90 | 7.00 | 24.0 |
| 10 | 19.00 | 1.60 | 0.08 | 0.08 | 30.70 | | | | | 7.90 | 7.00 | 24.0 |
| 11 | 17.40 | 1.20 | 0.08 | 0.08 | 45.90 | | | | | 7.90 | 7.00 | 22.0 |
| 12 | 19.10 | 0.69 | 0.09 | 0.08 | 49.90 | | | | | 7.90 | 6.90 | 22.0 |
| 13 | 10.70 | 0.38 | 0.09 | 0.09 | 44.60 | | | | | 7.90 | 6.90 | 22.0 |
| 14 | 10.60 | 0.76 | 0.08 | 0.09 | 32.50 | | | | | 7.90 | 6.90 | 22.0 |
| 15 | 22.00 | 0.44 | 0.08 | 0.08 | 50.20 | | | | | 7.80 | 6.80 | 23.0 |
| 16 | 16.70 | 0.86 | 0.08 | 0.08 | 31.00 | | | | | 7.90 | 6.90 | 23.0 |
| 17 | 21.00 | 0.75 | 0.09 | 0.08 | 40.50 | | | | | 7.90 | 6.80 | 23.0 |
| 18 | 33.00 | 0.81 | 0.09 | 0.08 | 52.30 | | | | | 7.90 | 6.80 | 23.5 |
| 19 | 54.00 | 1.41 | 0.09 | 0.09 | 41.60 | | | | | 7.90 | 6.80 | 23.0 |
| 20 | 43.00 | 1.12 | 0.09 | 0.09 | 34.70 | | | | | 7.90 | 6.90 | 23.0 |
| 21 | 25.00 | 0.91 | 0.09 | 0.09 | 52.50 | | | | | 7.90 | 6.90 | 23.0 |
| 22 | 49.00 | 1.15 | 0.11 | 0.11 | 42.80 | | | | | 7.80 | 6.90 | 23.5 |
| 23 | 24.00 | 0.96 | 0.10 | 0.10 | 50.10 | | | | | 7.90 | 6.80 | 23.0 |
| 24 | 48.00 | 1.26 | 0.11 | 0.10 | 36.70 | | | | | 7.90 | 6.90 | 23.0 |
| 25 | 23.00 | 0.79 | 0.10 | 0.08 | 61.90 | | | | | 7.90 | 6.80 | 22.0 |
| 26 | 20.00 | 2.20 | 0.09 | 0.09 | 35.00 | | | | | 7.90 | 6.80 | 21.5 |
| 27 | 38.00 | 0.42 | 0.09 | 0.08 | 48.20 | | | | | 7.90 | 6.90 | 21.0 |
| 28 | 52.00 | 2.30 | 0.11 | 0.09 | 49.10 | | | | | 7.80 | 6.90 | 19.0 |
| 29 | 31.00 | 0.97 | 0.09 | 0.09 | 47.50 | | | | | 7.90 | 7.00 | 18.0 |
| 30 | 27.00 | 0.99 | 0.09 | 0.09 | 50.50 | | | | | 7.90 | 7.00 | 18.0 |
| 31 | 25.00 | 1.10 | 0.09 | 0.09 | 39.40 | | | | | 7.90 | 7.00 | 19.0 |

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( SEP 1986 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 21.00 | 0.98 | 0.09 | 0.09 | 70.10 | | | | | 7.90 | 7.00 | 20.0 |
| 2 | 14.10 | 1.83 | 0.08 | 0.08 | 28.50 | | | | | 7.80 | 6.90 | 19.0 |
| 3 | 14.90 | 1.60 | 0.12 | 0.12 | 33.60 | | | | | 7.90 | 7.00 | 19.5 |
| 4 | 10.50 | 0.90 | 0.11 | 0.11 | 36.90 | | | | | 7.90 | 7.00 | 20.0 |
| 5 | 14.10 | 0.54 | 0.09 | 0.09 | 26.10 | | | | | 7.90 | 7.00 | 21.0 |
| 6 | 12.20 | 0.85 | 0.09 | 0.09 | 26.00 | | | | | 7.85 | 6.90 | 20.0 |
| 7 | 31.00 | 0.74 | 0.09 | 0.09 | 17.90 | | | | | 7.90 | 6.90 | 19.0 |
| 8 | 12.60 | 1.50 | 0.08 | 0.08 | 17.70 | | | | | 7.90 | 7.00 | 18.5 |
| 9 | 9.90 | 1.20 | 0.08 | 0.08 | 28.30 | | | | | 7.80 | 6.90 | 17.5 |
| 10 | 8.60 | 2.30 | 0.09 | 0.09 | 22.20 | | | | | 7.90 | 6.90 | 18.0 |
| 11 | 11.10 | 0.97 | 0.09 | 0.08 | 55.00 | | | | | 7.90 | 6.80 | 19.0 |
| 12 | 15.30 | 2.00 | 0.08 | 0.08 | 47.50 | | | | | 7.90 | 6.90 | 19.0 |
| 13 | 19.80 | 0.76 | 0.08 | 0.08 | 49.90 | | | | | 7.90 | 6.80 | 18.0 |
| 14 | 15.40 | 0.87 | 0.08 | 0.07 | 40.50 | | | | | 7.90 | 6.90 | 18.0 |
| 15 | 21.00 | 0.51 | 0.08 | 0.07 | 48.80 | | | | | 7.90 | 6.90 | 17.0 |
| 16 | 68.00 | 1.09 | 0.07 | 0.08 | 41.50 | | | | | 7.90 | 6.90 | 17.0 |
| 17 | 38.00 | 1.15 | 0.08 | 0.08 | 44.10 | | | | | 7.80 | 6.90 | 16.0 |
| 18 | 12.90 | 1.24 | 0.11 | 0.90 | 42.40 | | | | | 7.80 | 6.90 | 16.0 |
| 19 | 17.50 | 6.00 | 0.08 | 0.08 | 55.10 | | | | | 7.90 | 6.90 | 17.0 |
| 20 | 18.20 | 1.12 | 0.08 | 0.06 | 42.90 | | | | | 7.90 | 6.90 | 17.0 |
| 21 | 33.00 | 1.00 | 0.08 | 0.07 | 46.20 | | | | | 7.90 | 6.90 | 17.0 |
| 22 | 18.40 | 3.30 | 0.09 | 0.09 | 31.60 | | | | | 7.90 | 6.90 | 18.0 |
| 23 | 13.50 | 1.12 | 0.08 | 0.08 | 58.30 | | | | | 7.80 | 6.90 | 18.0 |
| 24 | 9.00 | 1.16 | 0.07 | 0.09 | 43.50 | | | | | 7.90 | 6.80 | 19.0 |
| 25 | 14.10 | 1.55 | 0.09 | 0.09 | 59.30 | | | | | 7.90 | 6.80 | 19.0 |
| 26 | 21.00 | 1.01 | 0.09 | 0.09 | 37.90 | | | | | 7.90 | 6.80 | 19.0 |
| 27 | 18.00 | 1.20 | 0.08 | 0.09 | 38.00 | | | | | 7.90 | 6.90 | 19.0 |
| 28 | 20.00 | 1.12 | 0.08 | 0.09 | 48.70 | | | | | 7.90 | 7.00 | 19.0 |
| 29 | 34.00 | 1.50 | 0.07 | 0.07 | 37.40 | | | | | 7.80 | 6.90 | 20.0 |
| 30 | 33.00 | 1.80 | 0.08 | 0.08 | 50.40 | | | | | 7.80 | 6.90 | 21.0 |
| 31 | | | | | | | | | | | | |

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( OCT 1986 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 24.00 | 0.92 | 0.09 | 0.09 | 77.60 | | | | | 7.90 | 6.90 | 20.0 |
| 2 | 41.00 | 2.00 | 0.07 | 0.07 | 60.90 | | | | | 7.80 | 6.90 | 19.0 |
| 3 | 32.00 | 0.80 | 0.08 | 0.08 | 74.70 | | | | | 7.80 | 6.80 | 19.0 |
| 4 | 52.00 | 1.43 | 0.08 | 0.08 | 76.10 | | | | | 7.90 | 6.80 | 19.0 |
| 5 | 84.00 | 0.84 | 0.07 | 0.07 | 82.50 | | | | | 7.90 | 6.80 | 19.0 |
| 6 | 101.00 | 1.36 | 0.08 | 0.08 | 77.10 | | | | | 7.90 | 6.90 | 15.0 |
| 7 | 26.00 | 2.50 | 0.08 | 0.08 | 52.50 | | | | | 7.90 | 6.90 | 14.0 |
| 8 | 25.00 | 2.90 | 0.10 | 0.09 | 59.00 | | | | | 7.90 | 6.90 | 14.0 |
| 9 | 45.00 | 2.40 | 0.10 | 0.10 | 73.40 | | | | | 7.90 | 6.90 | 14.5 |
| 10 | 53.00 | 1.06 | 0.09 | 0.09 | 24.10 | | | | | 7.90 | 6.80 | 13.0 |
| 11 | 56.00 | 0.87 | 0.09 | 0.08 | 110.50 | | | | | 7.90 | 6.90 | 13.0 |
| 12 | 59.00 | 1.76 | 0.09 | 0.09 | 54.60 | | | | | 7.90 | 6.90 | 13.0 |
| 13 | 40.00 | 0.96 | 0.08 | 0.08 | 84.40 | | | | | 7.80 | 6.90 | 13.0 |
| 14 | 52.00 | 1.95 | 0.10 | 0.10 | 104.90 | | | | | 7.80 | 6.90 | 13.0 |
| 15 | 68.00 | 1.20 | 0.09 | 0.08 | 56.00 | | | | | 7.90 | 6.90 | 12.0 |
| 16 | 56.00 | 1.62 | 0.10 | 0.09 | 49.90 | | | | | 7.90 | 6.80 | 11.0 |
| 17 | 71.00 | 1.24 | 0.09 | 0.10 | 80.20 | | | | | 7.90 | 6.90 | 11.0 |
| 18 | 29.00 | 0.94 | 0.07 | 0.08 | 78.50 | | | | | 7.80 | 6.90 | 10.0 |
| 19 | 40.00 | 1.10 | 0.08 | 0.09 | 55.30 | | | | | 7.90 | 7.00 | 10.0 |
| 20 | 56.00 | 1.32 | 0.06 | 0.05 | 77.20 | | | | | 8.00 | 6.90 | 11.0 |
| 21 | 33.00 | 1.45 | 0.07 | 0.07 | 63.10 | | | | | 8.00 | 6.90 | 11.0 |
| 22 | 26.00 | 1.90 | 0.08 | 0.08 | 90.20 | | | | | 8.00 | 6.90 | 11.0 |
| 23 | 26.00 | 1.15 | 0.03 | 0.03 | 78.50 | | | | | 8.00 | 6.90 | 11.0 |
| 24 | 43.00 | 1.12 | 0.03 | 0.03 | 62.50 | | | | | 8.00 | 6.90 | 12.0 |
| 25 | 52.00 | 1.19 | 0.06 | 0.04 | 98.40 | | | | | 8.00 | 6.90 | 13.0 |
| 26 | 45.00 | 1.21 | 0.06 | 0.07 | 72.70 | | | | | 7.90 | 6.90 | 13.0 |
| 27 | 36.00 | 1.17 | 0.07 | 0.09 | 47.80 | | | | | 7.90 | 6.90 | 13.0 |
| 28 | 19.00 | 1.75 | 0.09 | 0.08 | 64.50 | | | | | 7.90 | 6.80 | 12.0 |
| 29 | 16.00 | 1.82 | 0.08 | 0.08 | 70.90 | | | | | 7.90 | 6.90 | 12.0 |
| 30 | 65.00 | 1.72 | 0.08 | 0.08 | 74.30 | | | | | 7.90 | 6.90 | 12.0 |
| 31 | 28.00 | 1.65 | 0.07 | 0.07 | 56.60 | | | | | 8.00 | 6.90 | 10.0 |

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( NOV 1986 )

| DATE | TURBIDITY (FTU) | | | | COAGULANT | COAG. AID | FILTER AID | METAL RES. Al (mg/L) | | pH | | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Raw | Set. | Filter | Treat. | mg/L | mg/L | mg/L | Raw | Treat. | Raw | Treat. | |
| 1 | 30.00 | 1.86 | 0.07 | 0.07 | 77.00 | | | | | 8.00 | 6.90 | 10.0 |
| 2 | 32.00 | 1.34 | 0.08 | 0.08 | 60.30 | | | | | 7.90 | 6.90 | 10.0 |
| 3 | 16.20 | 1.14 | 0.07 | 0.07 | 60.30 | | | | | 7.90 | 6.90 | 10.0 |
| 4 | 47.00 | 1.18 | 0.08 | 0.07 | 53.10 | | | | | 8.00 | 6.90 | 10.0 |
| 5 | 41.00 | 0.95 | 0.08 | 0.08 | 40.00 | | | | | 8.00 | 6.90 | 8.0 |
| 6 | 20.00 | 1.29 | 0.08 | 0.08 | 40.10 | | | | | 8.00 | 6.90 | 8.0 |
| 7 | 17.70 | 0.68 | 0.07 | 0.07 | 41.00 | | | | | 8.00 | 6.90 | 9.0 |
| 8 | 12.20 | 0.76 | 0.07 | 0.08 | 47.90 | | | | | 7.90 | 7.00 | 9.5 |
| 9 | 21.00 | 0.95 | 0.07 | 0.07 | 65.80 | | | | | 7.90 | 7.00 | 9.5 |
| 10 | 27.00 | 1.46 | 0.09 | 0.07 | 46.80 | | | | | 8.00 | 7.00 | 7.0 |
| 11 | 12.00 | 1.22 | 0.09 | 0.07 | 57.30 | | | | | 7.90 | 7.00 | 7.5 |
| 12 | 11.10 | 1.09 | 0.06 | 0.06 | 55.30 | | | | | 7.90 | 6.90 | 6.0 |
| 13 | 43.00 | 1.48 | 0.05 | 0.05 | 57.60 | | | | | 8.00 | 7.00 | 4.0 |
| 14 | 17.30 | 2.20 | 0.05 | 0.05 | 34.20 | | | | | 7.90 | 7.00 | 4.0 |
| 15 | 18.10 | 1.74 | 0.06 | 0.06 | 53.60 | | | | | 7.90 | 7.00 | 4.0 |
| 16 | 16.70 | 1.67 | 0.07 | 0.07 | 48.90 | | | | | 8.00 | 7.00 | 4.0 |
| 17 | 8.10 | 1.26 | 0.07 | 0.06 | 38.60 | | | | | 8.00 | 7.00 | 4.0 |
| 18 | 15.00 | 0.97 | 0.07 | 0.05 | 52.80 | | | | | 8.00 | 7.00 | 4.0 |
| 19 | 70.00 | 17.20 | 0.06 | 0.05 | 78.50 | | | | | 8.00 | 7.00 | 4.0 |
| 20 | 70.00 | 16.50 | 0.06 | 0.03 | 58.50 | | | | | 7.90 | 6.90 | 3.0 |
| 21 | 66.00 | 4.50 | 0.05 | 0.04 | 80.20 | | | | | 7.90 | 6.90 | 4.0 |
| 22 | 27.00 | 7.60 | 0.04 | 0.04 | 66.70 | | | | | 8.00 | 6.90 | 4.0 |
| 23 | 18.20 | 1.64 | 0.05 | 0.05 | 56.80 | | | | | 8.00 | 6.90 | 4.0 |
| 24 | 30.00 | 1.16 | 0.06 | 0.07 | 53.80 | | | | | 8.10 | 7.00 | 4.0 |
| 25 | 17.80 | 5.50 | 0.05 | 0.02 | 61.00 | | | | | 8.00 | 7.00 | 4.0 |
| 26 | 19.70 | 1.50 | 0.04 | 0.02 | 55.90 | | | | | 7.90 | 7.00 | 3.0 |
| 27 | 43.00 | 1.45 | 0.03 | 0.03 | 72.80 | | | | | 7.90 | 7.00 | 3.0 |
| 28 | 107.00 | 3.70 | 0.07 | 0.03 | 68.90 | | | | | 7.90 | 7.00 | 3.0 |
| 29 | 65.00 | 2.30 | 0.04 | 0.03 | 68.80 | | | | | 7.90 | 7.00 | 4.0 |
| 30 | 43.00 | 3.60 | 0.06 | 0.03 | 81.20 | | | | | 7.90 | 7.00 | 4.0 |
| 31 | | | | | | | | | | | | |

TABLE 2.1: PARTICULATE REMOVAL PROFILE ( DEC 1986 )

| DATE | TURBIDITY (FTU) Raw | Set. | Filter | Treat. | COAGULANT mg/L | COAG. AID mg/L | FILTER AID mg/L | METAL RES. Al (mg/L) Raw | Treat. | pH Raw | Treat. | TEMP DEG. C. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 54.00 | 1.65 | 0.03 | 0.03 | 75.90 | | | | | 7.90 | 7.00 | 2.5 |
| 2 | 84.00 | 1.18 | 0.05 | 0.04 | 81.70 | | | | | 8.00 | 7.00 | 2.5 |
| 3 | 21.00 | 0.87 | 0.02 | 0.02 | 102.90 | | | | | 7.90 | 7.00 | 3.0 |
| 4 | 173.00 | 7.90 | 0.05 | 0.05 | 97.60 | | | | | 7.90 | 6.90 | 3.0 |
| 5 | 114.00 | 8.10 | 0.05 | 0.05 | 100.50 | | | | | 7.90 | 6.90 | 2.0 |
| 6 | 24.00 | 2.16 | 0.06 | 0.06 | 89.70 | | | | | 7.90 | 6.90 | 2.0 |
| 7 | 39.00 | 3.46 | 0.06 | 0.06 | 88.50 | | | | | 7.90 | 6.90 | 2.0 |
| 8 | 41.00 | 4.90 | 0.05 | 0.05 | 82.20 | | | | | 7.90 | 6.90 | 2.0 |
| 9 | 54.00 | 4.00 | 0.04 | 0.04 | 84.80 | | | | | 8.00 | 7.00 | 2.0 |
| 10 | 121.00 | 19.60 | 0.05 | 0.02 | 86.70 | | | | | 8.00 | 7.00 | 2.0 |
| 11 | 101.00 | 8.00 | 0.35 | 0.34 | 94.70 | | | | | 8.00 | 7.00 | 1.0 |
| 12 | 88.00 | 5.60 | 0.62 | 0.58 | 100.30 | | | | | 8.00 | 7.00 | 1.0 |
| 13 | 55.00 | 6.30 | 0.13 | 0.13 | 76.90 | | | | | 8.00 | 7.00 | 1.0 |
| 14 | 47.00 | 1.78 | 0.06 | 0.06 | 63.50 | | | | | 8.00 | 7.00 | 1.0 |
| 15 | 38.00 | 2.30 | 0.07 | 0.07 | 63.80 | | | | | 8.00 | 7.00 | 1.0 |
| 16 | 31.00 | 4.10 | 0.07 | 0.05 | 49.30 | | | | | 7.90 | 6.90 | 1.0 |
| 17 | 41.00 | 2.20 | 0.04 | 0.04 | 59.40 | | | | | 7.90 | 6.90 | 1.0 |
| 18 | 35.00 | 7.80 | 0.03 | 0.05 | 71.60 | | | | | 7.90 | 6.90 | 1.0 |
| 19 | 52.00 | 8.60 | 0.12 | 0.09 | 71.30 | | | | | 7.90 | 6.90 | 1.0 |
| 20 | 38.00 | 3.60 | 0.05 | 0.04 | 65.60 | | | | | 7.90 | 7.00 | 1.0 |
| 21 | 45.00 | 4.20 | 0.05 | 0.05 | 71.20 | | | | | 7.90 | 7.00 | 1.0 |
| 22 | 33.00 | 9.20 | 0.09 | 0.09 | 57.20 | | | | | 7.90 | 7.00 | 1.0 |
| 23 | 46.00 | 7.20 | 0.07 | 0.06 | 62.80 | | | | | 7.90 | 7.00 | 1.0 |
| 24 | 48.00 | 6.50 | 0.06 | 0.06 | 63.40 | | | | | 7.90 | 7.00 | 1.0 |
| 25 | 46.00 | 3.60 | 0.05 | 0.05 | 57.70 | | | | | 7.90 | 7.00 | 1.0 |
| 26 | 35.00 | 4.20 | 0.06 | 0.05 | 66.60 | | | | | 7.90 | 7.00 | 1.0 |
| 27 | 32.00 | 4.80 | 0.08 | 0.06 | 65.10 | | | | | 7.90 | 7.00 | 1.0 |
| 28 | 29.00 | 3.40 | 0.06 | 0.04 | 52.90 | | | | | 7.90 | 7.00 | 1.0 |
| 29 | 52.00 | 2.40 | 0.05 | 0.04 | 64.50 | | | | | 7.90 | 6.90 | 1.0 |
| 30 | 43.00 | 2.20 | 0.04 | 0.04 | 62.00 | | | | | 7.90 | 6.90 | 1.0 |
| 31 | 33.00 | 2.60 | 0.03 | 0.04 | 54.20 | | | | | 7.90 | 7.00 | 1.5 |

TABLE 3.0: DISINFECTION SUMMARY

| | | 1986 | | | | | | 1985 | | | | | | 1984 | | | | | | 1983 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | PRE-CHLORINATION | | | POST-CHLORINATION | | | PRE-CHLORINATION | | | POST-CHLORINATION | | | PRE-CHLORINATION | | | POST-CHLORINATION | | | PRE-CHLORINATION | | | POST-CHLORINATION | | |
| | | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. |
| JAN | Cl2 Demand | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cl2 Dosage * | 3.21 | 1.23 | 1.96 | | | | 3.88 | 1.44 | 2.31 | | | | 3.65 | 1.31 | 2.04 | | | | | | | | | |
| | Ammonia | | | | | | | | | | | | | | | | | | | | | | | | |
| | SO2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Free | 1.40 | 0.50 | 0.85 | 0.92 | 0.55 | 0.71 | 1.00 | 0.40 | 0.78 | 0.88 | 0.50 | 0.65 | 0.90 | 0.40 | 0.64 | 0.75 | 0.49 | 0.65 | | | | | | |
| | Resid. Cl2 Comb. | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Total | | | | | | | | | | | | | | | | | | | | | | | | |
| FEB | Cl2 Demand | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cl2 Dosage * | 3.58 | 1.01 | 2.12 | | | | 3.01 | 1.57 | 2.14 | | | | 3.41 | 1.70 | 2.39 | | | | | | | | | |
| | Ammonia | | | | | | | | | | | | | | | | | | | | | | | | |
| | SO2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Free | 1.40 | 0.50 | 0.86 | 0.85 | 0.50 | 0.69 | 1.00 | 0.60 | 0.83 | 0.76 | 0.60 | 0.67 | 0.90 | 0.50 | 0.68 | 0.87 | 0.55 | 0.69 | | | | | | |
| | Resid. Cl2 Comb. | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Total | | | | | | | | | | | | | | | | | | | | | | | | |
| MAR | Cl2 Demand | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cl2 Dosage * | 3.61 | 1.71 | 2.51 | | | | 3.70 | 2.01 | 2.67 | | | | 4.03 | 1.63 | 2.74 | | | | | | | | | |
| | Ammonia | | | | | | | | | | | | | | | | | | | | | | | | |
| | SO2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Free | 1.40 | 0.50 | 0.89 | 0.86 | 0.50 | 0.62 | 1.20 | 0.50 | 0.76 | 0.73 | 0.41 | 0.61 | 0.95 | 0.50 | 0.72 | 0.78 | 0.53 | 0.65 | | | | | | |
| | Resid. Cl2 Comb. | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Total | | | | | | | | | | | | | | | | | | | | | | | | |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.0: DISINFECTION SUMMARY

| | | 1986 | | | | | | 1985 | | | | | | 1984 | | | | | | 1983 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | PRE-CHLORINATION | | | POST-CHLORINATION | | | PRE-CHLORINATION | | | POST-CHLORINATION | | | PRE-CHLORINATION | | | POST-CHLORINATION | | | PRE-CHLORINATION | | | POST-CHLORINATION | | |
| | | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. |
| APR | C12 Demand | | | | | | | | | | | | | | | | | | | | | | | | |
| | C12 Dosage * | 3.28 | 1.54 | 2.41 | | | | 3.25 | 1.18 | 2.45 | | | | 3.17 | 1.64 | 2.34 | | | | | | | | | |
| | Ammonia | | | | | | | | | | | | | | | | | | | | | | | | |
| | SO2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. C12 Free | 1.40 | 0.75 | 0.94 | 0.85 | 0.45 | 0.64 | 1.40 | 0.60 | 0.92 | 0.85 | 0.45 | 0.70 | 1.00 | 0.60 | 0.79 | 0.82 | 0.53 | 0.64 | | | | | | |
| | Resid. C12 Comb. | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. C12 Total | | | | | | | | | | | | | | | | | | | | | | | | |
| MAY | C12 Demand | | | | | | | | | | | | | | | | | | | | | | | | |
| | C12 Dosage * | 2.69 | 1.09 | 1.96 | | | | 3.08 | 1.50 | 2.24 | | | | 2.55 | 1.23 | 1.99 | | | | | | | | | |
| | Ammonia | | | | | | | | | | | | | | | | | | | | | | | | |
| | SO2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. C12 Free | 1.60 | 0.60 | 1.04 | 0.90 | 0.48 | 0.70 | 1.40 | 0.60 | 0.94 | 0.89 | 0.40 | 0.66 | 1.00 | 0.60 | 0.81 | 0.82 | 0.53 | 0.66 | | | | | | |
| | Resid. C12 Comb. | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. C12 Total | | | | | | | | | | | | | | | | | | | | | | | | |
| JUN | C12 Demand | | | | | | | | | | | | | | | | | | | | | | | | |
| | C12 Dosage * | 3.07 | 1.51 | 2.43 | | | | 2.81 | 1.91 | 2.37 | | | | 2.78 | 1.12 | 2.11 | | | | | | | | | |
| | Ammonia | | | | | | | | | | | | | | | | | | | | | | | | |
| | SO2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. C12 Free | 1.60 | 0.85 | 1.20 | 0.80 | 0.57 | 0.67 | 1.40 | 0.60 | 0.85 | 0.77 | 0.55 | 0.69 | 1.00 | 0.60 | 0.81 | 0.78 | 0.53 | 0.65 | | | | | | |
| | Resid. C12 Comb. | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. C12 Total | | | | | | | | | | | | | | | | | | | | | | | | |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.0: DISINFECTION SUMMARY

| | | 1986 | | | | | | 1985 | | | | | | 1984 | | | | | | 1983 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | PRE-CHLORINATION | | | POST-CHLORINATION | | | PRE-CHLORINATION | | | POST-CHLORINATION | | | PRE-CHLORINATION | | | POST-CHLORINATION | | | PRE-CHLORINATION | | | POST-CHLORINATION | | |
| | | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. |
| JUL | Cl2 Demand | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cl2 Dosage * | 2.82 | 1.81 | 2.25 | | | | 3.43 | 1.80 | 2.41 | | | | 3.13 | 1.60 | 2.17 | | | | | | | | | |
| | Ammonia | | | | | | | | | | | | | | | | | | | | | | | | |
| | SO2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Free | 1.60 | 1.00 | 1.28 | 0.90 | 0.57 | 0.73 | 1.40 | 0.50 | 0.92 | 0.75 | 0.45 | 0.65 | 1.20 | 0.50 | 0.90 | 0.75 | 0.52 | 0.64 | | | | | | |
| | Resid. Cl2 Comb. | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Total | | | | | | | | | | | | | | | | | | | | | | | | |
| AUG | Cl2 Demand | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cl2 Dosage * | 3.10 | 1.45 | 2.22 | | | | 3.59 | 2.04 | 2.68 | | | | 3.48 | 1.76 | 2.42 | | | | | | | | | |
| | Ammonia | | | | | | | | | | | | | | | | | | | | | | | | |
| | SO2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Free | 1.60 | 1.10 | 1.27 | 0.85 | 0.61 | 0.69 | 1.40 | 0.70 | 0.94 | 0.80 | 0.57 | 0.71 | 1.00 | 0.70 | 0.89 | 0.75 | 0.47 | 0.68 | | | | | | |
| | Resid. Cl2 Comb. | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Total | | | | | | | | | | | | | | | | | | | | | | | | |
| SEP | Cl2 Demand | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cl2 Dosage * | 2.86 | 1.42 | 2.09 | | | | 3.51 | 1.49 | 2.57 | | | | 3.03 | 1.74 | 2.36 | | | | | | | | | |
| | Ammonia | | | | | | | | | | | | | | | | | | | | | | | | |
| | SO2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Free | 1.70 | 1.00 | 1.26 | 0.82 | 0.57 | 0.69 | 1.10 | 0.50 | 0.83 | 0.82 | 0.54 | 0.68 | 1.40 | 0.60 | 0.82 | 0.79 | 0.62 | 0.72 | | | | | | |
| | Resid. Cl2 Comb. | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Total | | | | | | | | | | | | | | | | | | | | | | | | |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.0: DISINFECTION SUMMARY

| | | 1986 | | | | | | 1985 | | | | | | 1984 | | | | | | 1983 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | PRE-CHLORINATION | | | POST-CHLORINATION | | | PRE-CHLORINATION | | | POST-CHLORINATION | | | PRE-CHLORINATION | | | POST-CHLORINATION | | | PRE-CHLORINATION | | | POST-CHLORINATION | | |
| | | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. | MAX. | MIN. | AVG. |
| OCT | Cl2 Demand | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cl2 Dosage * | 4.02 | 1.99 | 2.78 | | | | 3.71 | 1.66 | 2.46 | | | | 3.76 | 1.92 | 2.69 | | | | | | | | | |
| | Ammonia | | | | | | | | | | | | | | | | | | | | | | | | |
| | SO2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Free | 2.00 | 1.10 | 1.45 | 1.20 | 0.60 | 0.77 | 1.00 | 0.60 | 0.85 | 0.76 | 0.49 | 0.65 | 1.00 | 0.66 | 0.75 | 0.78 | 0.55 | 0.69 | | | | | | |
| | Resid. Cl2 Comb. | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Total | | | | | | | | | | | | | | | | | | | | | | | | |
| NOV | Cl2 Demand | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cl2 Dosage * | 2.74 | 1.30 | 1.93 | | | | 3.53 | 1.56 | 2.76 | | | | 2.26 | 1.39 | 1.92 | | | | | | | | | |
| | Ammonia | | | | | | | | | | | | | | | | | | | | | | | | |
| | SO2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Free | 2.00 | 1.00 | 1.33 | 1.20 | 0.65 | 0.80 | 1.40 | 0.80 | 1.03 | 0.92 | 0.55 | 0.73 | 0.90 | 0.50 | 0.67 | 0.92 | 0.57 | 0.70 | | | | | | |
| | Resid. Cl2 Comb. | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Total | | | | | | | | | | | | | | | | | | | | | | | | |
| DEC | Cl2 Demand | | | | | | | | | | | | | | | | | | | | | | | | |
| | Cl2 Dosage * | 2.66 | 1.30 | 1.94 | | | | 2.93 | 1.69 | 2.26 | | | | 3.68 | 1.19 | 2.02 | | | | | | | | | |
| | Ammonia | | | | | | | | | | | | | | | | | | | | | | | | |
| | SO2 | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Free | 1.60 | 0.90 | 1.30 | 1.10 | 0.65 | 0.84 | 1.40 | 0.70 | 0.91 | 0.90 | 0.56 | 0.72 | 1.40 | 0.50 | 0.70 | 0.80 | 0.58 | 0.68 | | | | | | |
| | Resid. Cl2 Comb. | | | | | | | | | | | | | | | | | | | | | | | | |
| | Resid. Cl2 Total | | | | | | | | | | | | | | | | | | | | | | | | |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( JAN 1984 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 3.65 | | | 0.65 | | | | | | | 0.67 | | | 1 |
| 2 | | 3.65 | | | 0.60 | | | | | | | 0.71 | | | 2 |
| 3 | | 1.90 | | | 0.62 | | | | | | | 0.67 | | | 3 |
| 4 | | 1.97 | | | 0.70 | | | | | | | 0.72 | | | 4 |
| 5 | | 1.63 | | | 0.70 | | | | | | | 0.70 | | | 5 |
| 6 | | 1.89 | | | 0.70 | | | | | | | 0.65 | | | 6 |
| 7 | | 1.79 | | | 0.90 | | | | | | | 0.62 | | | 7 |
| 8 | | 2.32 | | | 0.60 | | | | | | | 0.58 | | | 8 |
| 9 | | 2.13 | | | 0.60 | | | | | | | 0.75 | | | 9 |
| 10 | | 1.91 | | | 0.70 | | | | | | | 0.68 | | | 10 |
| 11 | | 2.22 | | | 0.60 | | | | | | | 0.61 | | | 11 |
| 12 | | 1.96 | | | 0.90 | | | | | | | 0.58 | | | 12 |
| 13 | | 2.05 | | | 0.90 | | | | | | | 0.65 | | | 13 |
| 14 | | 1.88 | | | 0.85 | | | | | | | 0.71 | | | 14 |
| 15 | | 1.70 | | | 0.90 | | | | | | | 0.66 | | | 15 |
| 16 | | 1.47 | | | 0.60 | | | | | | | 0.64 | | | 16 |
| 17 | | 1.90 | | | 0.60 | | | | | | | 0.49 | | | 17 |
| 18 | | 2.18 | | | 0.60 | | | | | | | 0.62 | | | 18 |
| 19 | | 1.76 | | | 0.50 | | | | | | | 0.64 | | | 19 |
| 20 | | 1.85 | | | 0.40 | | | | | | | 0.60 | | | 20 |
| 21 | | 1.92 | | | 0.55 | | | | | | | 0.62 | | | 21 |
| 22 | | 1.96 | | | 0.50 | | | | | | | 0.62 | | | 22 |
| 23 | | 1.75 | | | 0.45 | | | | | | | 0.71 | | | 23 |
| 24 | | 1.31 | | | 0.60 | | | | | | | 0.64 | | | 24 |
| 25 | | 2.27 | | | 0.65 | | | | | | | 0.64 | | | 25 |
| 26 | | 2.16 | | | 0.60 | | | | | | | 0.65 | | | 26 |
| 27 | | 1.92 | | | 0.55 | | | | | | | 0.71 | | | 27 |
| 28 | | 1.93 | | | 0.60 | | | | | | | 0.69 | | | 28 |
| 29 | | 2.10 | | | 0.65 | | | | | | | 0.72 | | | 29 |
| 30 | | 1.70 | | | 0.65 | | | | | | | 0.67 | | | 30 |
| 31 | | 2.38 | | | 0.55 | | | | | | | 0.57 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( FEB 1984 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.06 | | | 0.55 | | | | | | | 0.70 | | | 1 |
| 2 | | 2.36 | | | 0.68 | | | | | | | 0.87 | | | 2 |
| 3 | | 1.79 | | | 0.60 | | | | | | | 0.72 | | | 3 |
| 4 | | 2.13 | | | 0.90 | | | | | | | 0.78 | | | 4 |
| 5 | | 1.75 | | | 0.80 | | | | | | | 0.70 | | | 5 |
| 6 | | 2.03 | | | 0.60 | | | | | | | 0.70 | | | 6 |
| 7 | | 2.28 | | | 0.60 | | | | | | | 0.70 | | | 7 |
| 8 | | 1.70 | | | 0.65 | | | | | | | 0.67 | | | 8 |
| 9 | | 2.20 | | | 0.65 | | | | | | | 0.66 | | | 9 |
| 10 | | 2.47 | | | 0.70 | | | | | | | 0.71 | | | 10 |
| 11 | | 1.81 | | | 0.65 | | | | | | | 0.74 | | | 11 |
| 12 | | 2.39 | | | 0.65 | | | | | | | 0.65 | | | 12 |
| 13 | | 3.13 | | | 0.75 | | | | | | | 0.72 | | | 13 |
| 14 | | 2.82 | | | 0.70 | | | | | | | 0.69 | | | 14 |
| 15 | | 3.06 | | | 0.68 | | | | | | | 0.72 | | | 15 |
| 16 | | 1.95 | | | 0.65 | | | | | | | 0.71 | | | 16 |
| 17 | | 2.26 | | | 0.67 | | | | | | | 0.57 | | | 17 |
| 18 | | 2.93 | | | 0.75 | | | | | | | 0.55 | | | 18 |
| 19 | | 3.10 | | | 0.90 | | | | | | | 0.69 | | | 19 |
| 20 | | 2.82 | | | 0.80 | | | | | | | 0.66 | | | 20 |
| 21 | | 3.41 | | | 0.70 | | | | | | | 0.72 | | | 21 |
| 22 | | 3.19 | | | 0.60 | | | | | | | 0.57 | | | 22 |
| 23 | | 2.42 | | | 0.50 | | | | | | | 0.70 | | | 23 |
| 24 | | 2.52 | | | 0.65 | | | | | | | 0.71 | | | 24 |
| 25 | | 2.55 | | | 0.70 | | | | | | | 0.71 | | | 25 |
| 26 | | 2.10 | | | 0.65 | | | | | | | 0.67 | | | 26 |
| 27 | | 2.09 | | | 0.65 | | | | | | | 0.69 | | | 27 |
| 28 | | 2.07 | | | 0.65 | | | | | | | 0.67 | | | 28 |
| 29 | | 2.04 | | | 0.60 | | | | | | | 0.70 | | | 29 |
| 30 | | | | | | | | | | | | | | | 30 |
| 31 | | | | | | | | | | | | | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( MAR 1984 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.13 | | | 0.65 | | | | | | | 0.67 | | | 1 |
| 2 | | 2.87 | | | 0.65 | | | | | | | 0.68 | | | 2 |
| 3 | | 3.02 | | | 0.50 | | | | | | | 0.53 | | | 3 |
| 4 | | 3.33 | | | 0.60 | | | | | | | 0.60 | | | 4 |
| 5 | | 2.98 | | | 0.65 | | | | | | | 0.66 | | | 5 |
| 6 | | 4.03 | | | 0.65 | | | | | | | 0.57 | | | 6 |
| 7 | | 3.28 | | | 0.65 | | | | | | | 0.59 | | | 7 |
| 8 | | 3.99 | | | 0.70 | | | | | | | 0.55 | | | 8 |
| 9 | | 3.97 | | | 0.80 | | | | | | | 0.60 | | | 9 |
| 10 | | 3.31 | | | 0.80 | | | | | | | 0.67 | | | 10 |
| 11 | | 2.47 | | | 0.85 | | | | | | | 0.53 | | | 11 |
| 12 | | 3.18 | | | 0.80 | | | | | | | 0.57 | | | 12 |
| 13 | | 2.03 | | | 0.80 | | | | | | | 0.65 | | | 13 |
| 14 | | 2.59 | | | 0.75 | | | | | | | 0.70 | | | 14 |
| 15 | | 2.13 | | | 0.75 | | | | | | | 0.69 | | | 15 |
| 16 | | 2.12 | | | 0.80 | | | | | | | 0.59 | | | 16 |
| 17 | | 2.53 | | | 0.70 | | | | | | | 0.67 | | | 17 |
| 18 | | 3.40 | | | 0.60 | | | | | | | 0.76 | | | 18 |
| 19 | | 2.39 | | | 0.65 | | | | | | | 0.66 | | | 19 |
| 20 | | 3.02 | | | 0.60 | | | | | | | 0.71 | | | 20 |
| 21 | | 2.40 | | | 0.65 | | | | | | | 0.69 | | | 21 |
| 22 | | 3.67 | | | 0.60 | | | | | | | 0.57 | | | 22 |
| 23 | | 2.57 | | | 0.80 | | | | | | | 0.72 | | | 23 |
| 24 | | 3.10 | | | 0.95 | | | | | | | 0.73 | | | 24 |
| 25 | | 2.40 | | | 0.90 | | | | | | | 0.69 | | | 25 |
| 26 | | 3.04 | | | 0.80 | | | | | | | 0.67 | | | 26 |
| 27 | | 1.78 | | | 0.87 | | | | | | | 0.78 | | | 27 |
| 28 | | 1.77 | | | 0.65 | | | | | | | 0.75 | | | 28 |
| 29 | | 1.86 | | | 0.65 | | | | | | | 0.69 | | | 29 |
| 30 | | 1.63 | | | 0.65 | | | | | | | 0.67 | | | 30 |
| 31 | | 2.08 | | | 0.70 | | | | | | | 0.60 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( APR 1984 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 1.90 | | | 0.70 | | | | | | | 0.58 | | | 1 |
| 2 | | 1.86 | | | 0.60 | | | | | | | 0.71 | | | 2 |
| 3 | | 2.47 | | | 0.60 | | | | | | | 0.65 | | | 3 |
| 4 | | 2.19 | | | 0.70 | | | | | | | 0.62 | | | 4 |
| 5 | | 2.74 | | | 0.60 | | | | | | | 0.53 | | | 5 |
| 6 | | 2.55 | | | 1.00 | | | | | | | 0.60 | | | 6 |
| 7 | | 2.43 | | | 0.80 | | | | | | | 0.69 | | | 7 |
| 8 | | 2.06 | | | 0.70 | | | | | | | 0.67 | | | 8 |
| 9 | | 2.36 | | | 0.65 | | | | | | | 0.75 | | | 9 |
| 10 | | 3.11 | | | 0.80 | | | | | | | 0.60 | | | 10 |
| 11 | | 2.74 | | | 0.70 | | | | | | | 0.67 | | | 11 |
| 12 | | 2.71 | | | 0.90 | | | | | | | 0.53 | | | 12 |
| 13 | | 2.40 | | | 0.80 | | | | | | | 0.61 | | | 13 |
| 14 | | 2.35 | | | 1.00 | | | | | | | 0.57 | | | 14 |
| 15 | | 1.86 | | | 0.70 | | | | | | | 0.60 | | | 15 |
| 16 | | 1.64 | | | 0.70 | | | | | | | 0.62 | | | 16 |
| 17 | | 2.55 | | | 0.70 | | | | | | | 0.54 | | | 17 |
| 18 | | 2.43 | | | 0.80 | | | | | | | 0.66 | | | 18 |
| 19 | | 3.17 | | | 1.00 | | | | | | | 0.82 | | | 19 |
| 20 | | 1.78 | | | 1.00 | | | | | | | 0.67 | | | 20 |
| 21 | | 2.21 | | | 0.70 | | | | | | | 0.67 | | | 21 |
| 22 | | 2.17 | | | 0.75 | | | | | | | 0.70 | | | 22 |
| 23 | | 2.13 | | | 1.00 | | | | | | | 0.64 | | | 23 |
| 24 | | 2.30 | | | 0.70 | | | | | | | 0.53 | | | 24 |
| 25 | | 2.50 | | | 0.60 | | | | | | | 0.56 | | | 25 |
| 26 | | 2.70 | | | 1.00 | | | | | | | 0.69 | | | 26 |
| 27 | | 2.28 | | | 1.00 | | | | | | | 0.78 | | | 27 |
| 28 | | 2.36 | | | 1.00 | | | | | | | 0.67 | | | 28 |
| 29 | | 2.20 | | | 0.80 | | | | | | | 0.63 | | | 29 |
| 30 | | 2.00 | | | 0.60 | | | | | | | 0.57 | | | 30 |
| 31 | | | | | | | | | | | | | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( MAY 1984 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.53 | | | 1.00 | | | | | | | 0.62 | | | 1 |
| 2 | | 2.28 | | | 0.80 | | | | | | | 0.62 | | | 2 |
| 3 | | 2.22 | | | 0.70 | | | | | | | 0.60 | | | 3 |
| 4 | | 2.33 | | | 1.00 | | | | | | | 0.72 | | | 4 |
| 5 | | 2.10 | | | 0.80 | | | | | | | 0.67 | | | 5 |
| 6 | | 2.10 | | | 0.80 | | | | | | | 0.71 | | | 6 |
| 7 | | 2.36 | | | 1.00 | | | | | | | 0.79 | | | 7 |
| 8 | | 2.06 | | | 1.00 | | | | | | | 0.72 | | | 8 |
| 9 | | 1.99 | | | 0.80 | | | | | | | 0.64 | | | 9 |
| 10 | | 2.18 | | | 0.90 | | | | | | | 0.66 | | | 10 |
| 11 | | 2.16 | | | 0.80 | | | | | | | 0.82 | | | 11 |
| 12 | | 1.87 | | | 0.80 | | | | | | | 0.72 | | | 12 |
| 13 | | 2.02 | | | 0.80 | | | | | | | 0.69 | | | 13 |
| 14 | | 1.44 | | | 0.90 | | | | | | | 0.61 | | | 14 |
| 15 | | 2.17 | | | 0.80 | | | | | | | 0.61 | | | 15 |
| 16 | | 1.52 | | | 0.80 | | | | | | | 0.61 | | | 16 |
| 17 | | 1.82 | | | 0.80 | | | | | | | 0.55 | | | 17 |
| 18 | | 1.86 | | | 0.70 | | | | | | | 0.65 | | | 18 |
| 19 | | 1.84 | | | 0.75 | | | | | | | 0.71 | | | 19 |
| 20 | | 1.48 | | | 0.70 | | | | | | | 0.69 | | | 20 |
| 21 | | 1.23 | | | 0.65 | | | | | | | 0.67 | | | 21 |
| 22 | | 1.43 | | | 0.65 | | | | | | | 0.65 | | | 22 |
| 23 | | 2.27 | | | 0.75 | | | | | | | 0.66 | | | 23 |
| 24 | | 1.79 | | | 1.00 | | | | | | | 0.64 | | | 24 |
| 25 | | 1.47 | | | 0.80 | | | | | | | 0.67 | | | 25 |
| 26 | | 2.14 | | | 0.70 | | | | | | | 0.53 | | | 26 |
| 27 | | 1.62 | | | 0.60 | | | | | | | 0.55 | | | 27 |
| 28 | | 2.17 | | | 0.60 | | | | | | | 0.62 | | | 28 |
| 29 | | 2.55 | | | 0.60 | | | | | | | 0.72 | | | 29 |
| 30 | | 2.31 | | | 1.00 | | | | | | | 0.78 | | | 30 |
| 31 | | 2.29 | | | 1.00 | | | | | | | 0.57 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( JUN 1984 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.66 | | | 0.80 | | | | | | | 0.75 | | | 1 |
| 2 | | 2.62 | | | 0.80 | | | | | | | 0.74 | | | 2 |
| 3 | | 2.58 | | | 0.75 | | | | | | | 0.78 | | | 3 |
| 4 | | 1.69 | | | 0.80 | | | | | | | 0.68 | | | 4 |
| 5 | | 2.58 | | | 0.80 | | | | | | | 0.70 | | | 5 |
| 6 | | 2.00 | | | 0.90 | | | | | | | 0.65 | | | 6 |
| 7 | | 1.80 | | | 0.80 | | | | | | | 0.66 | | | 7 |
| 8 | | 2.00 | | | 0.80 | | | | | | | 0.70 | | | 8 |
| 9 | | 1.59 | | | 0.90 | | | | | | | 0.62 | | | 9 |
| 10 | | 1.40 | | | 1.00 | | | | | | | 0.58 | | | 10 |
| 11 | | 1.80 | | | 1.00 | | | | | | | 0.61 | | | 11 |
| 12 | | 1.67 | | | 1.00 | | | | | | | 0.63 | | | 12 |
| 13 | | 1.63 | | | 0.85 | | | | | | | 0.60 | | | 13 |
| 14 | | 2.25 | | | 0.85 | | | | | | | 0.53 | | | 14 |
| 15 | | 1.12 | | | 0.60 | | | | | | | 0.58 | | | 15 |
| 16 | | 1.86 | | | 0.75 | | | | | | | 0.67 | | | 16 |
| 17 | | 2.09 | | | 0.70 | | | | | | | 0.68 | | | 17 |
| 18 | | 2.16 | | | 0.75 | | | | | | | 0.68 | | | 18 |
| 19 | | 2.46 | | | 0.65 | | | | | | | 0.65 | | | 19 |
| 20 | | 2.78 | | | 0.80 | | | | | | | 0.63 | | | 20 |
| 21 | | 1.99 | | | 1.00 | | | | | | | 0.76 | | | 21 |
| 22 | | 1.98 | | | 0.85 | | | | | | | 0.67 | | | 22 |
| 23 | | 2.18 | | | 0.75 | | | | | | | 0.53 | | | 23 |
| 24 | | 2.47 | | | 0.70 | | | | | | | 0.54 | | | 24 |
| 25 | | 2.49 | | | 1.00 | | | | | | | 0.58 | | | 25 |
| 26 | | 2.49 | | | 0.80 | | | | | | | 0.56 | | | 26 |
| 27 | | 2.73 | | | 0.75 | | | | | | | 0.58 | | | 27 |
| 28 | | 1.89 | | | 0.70 | | | | | | | 0.65 | | | 28 |
| 29 | | 2.15 | | | 0.70 | | | | | | | 0.70 | | | 29 |
| 30 | | 2.22 | | | 0.80 | | | | | | | 0.72 | | | 30 |
| 31 | | | | | | | | | | | | | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( JUL 1984 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.12 | | | 0.80 | | | | | | | 0.67 | | | 1 |
| 2 | | 2.41 | | | 0.80 | | | | | | | 0.69 | | | 2 |
| 3 | | 2.29 | | | 0.80 | | | | | | | 0.71 | | | 3 |
| 4 | | 2.41 | | | 0.80 | | | | | | | 0.65 | | | 4 |
| 5 | | 2.92 | | | 0.75 | | | | | | | 0.68 | | | 5 |
| 6 | | 2.99 | | | 0.70 | | | | | | | 0.71 | | | 6 |
| 7 | | 2.96 | | | 0.80 | | | | | | | 0.67 | | | 7 |
| 8 | | 1.70 | | | 0.80 | | | | | | | 0.75 | | | 8 |
| 9 | | 1.74 | | | 0.60 | | | | | | | 0.58 | | | 9 |
| 10 | | 1.89 | | | 0.50 | | | | | | | 0.56 | | | 10 |
| 11 | | 2.33 | | | 1.00 | | | | | | | 0.58 | | | 11 |
| 12 | | 2.32 | | | 0.60 | | | | | | | 0.60 | | | 12 |
| 13 | | 1.97 | | | 0.70 | | | | | | | 0.68 | | | 13 |
| 14 | | 2.08 | | | 0.70 | | | | | | | 0.70 | | | 14 |
| 15 | | 2.09 | | | 1.00 | | | | | | | 0.73 | | | 15 |
| 16 | | 1.90 | | | 1.10 | | | | | | | 0.62 | | | 16 |
| 17 | | 2.03 | | | 0.80 | | | | | | | 0.58 | | | 17 |
| 18 | | 1.94 | | | 0.60 | | | | | | | 0.73 | | | 18 |
| 19 | | 1.94 | | | 1.10 | | | | | | | 0.67 | | | 19 |
| 20 | | 1.80 | | | 1.00 | | | | | | | 0.69 | | | 20 |
| 21 | | 1.80 | | | 1.10 | | | | | | | 0.62 | | | 21 |
| 22 | | 1.60 | | | 1.20 | | | | | | | 0.55 | | | 22 |
| 23 | | 1.85 | | | 1.10 | | | | | | | 0.53 | | | 23 |
| 24 | | 1.80 | | | 1.10 | | | | | | | 0.61 | | | 24 |
| 25 | | 2.00 | | | 1.10 | | | | | | | 0.69 | | | 25 |
| 26 | | 2.24 | | | 1.00 | | | | | | | 0.62 | | | 26 |
| 27 | | 2.49 | | | 1.00 | | | | | | | 0.57 | | | 27 |
| 28 | | 2.14 | | | 1.10 | | | | | | | 0.65 | | | 28 |
| 29 | | 3.13 | | | 1.00 | | | | | | | 0.62 | | | 29 |
| 30 | | 2.16 | | | 1.20 | | | | | | | 0.62 | | | 30 |
| 31 | | 2.21 | | | 1.00 | | | | | | | 0.52 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( AUG 1984 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.07 | | | 1.00 | | | | | | | 0.47 | | | 1 |
| 2 | | 2.41 | | | 1.00 | | | | | | | 0.60 | | | 2 |
| 3 | | 2.61 | | | 1.00 | | | | | | | 0.60 | | | 3 |
| 4 | | 2.74 | | | 1.00 | | | | | | | 0.68 | | | 4 |
| 5 | | 2.58 | | | 1.00 | | | | | | | 0.66 | | | 5 |
| 6 | | 2.23 | | | 1.00 | | | | | | | 0.72 | | | 6 |
| 7 | | 2.29 | | | 1.00 | | | | | | | 0.62 | | | 7 |
| 8 | | 1.76 | | | 1.00 | | | | | | | 0.62 | | | 8 |
| 9 | | 2.43 | | | 1.00 | | | | | | | 0.67 | | | 9 |
| 10 | | 2.50 | | | 0.80 | | | | | | | 0.73 | | | 10 |
| 11 | | 2.11 | | | 1.00 | | | | | | | 0.72 | | | 11 |
| 12 | | 2.05 | | | 1.00 | | | | | | | 0.68 | | | 12 |
| 13 | | 2.42 | | | 1.00 | | | | | | | 0.58 | | | 13 |
| 14 | | 2.19 | | | 0.95 | | | | | | | 0.73 | | | 14 |
| 15 | | 2.57 | | | 0.90 | | | | | | | 0.75 | | | 15 |
| 16 | | 2.13 | | | 0.80 | | | | | | | 0.74 | | | 16 |
| 17 | | 2.12 | | | 1.00 | | | | | | | 0.64 | | | 17 |
| 18 | | 2.07 | | | 0.80 | | | | | | | 0.69 | | | 18 |
| 19 | | 2.41 | | | 0.80 | | | | | | | 0.68 | | | 19 |
| 20 | | 3.48 | | | 0.70 | | | | | | | 0.70 | | | 20 |
| 21 | | 2.91 | | | 0.80 | | | | | | | 0.73 | | | 21 |
| 22 | | 2.12 | | | 0.80 | | | | | | | 0.68 | | | 22 |
| 23 | | 2.88 | | | 0.70 | | | | | | | 0.71 | | | 23 |
| 24 | | 2.32 | | | 1.00 | | | | | | | 0.67 | | | 24 |
| 25 | | 2.38 | | | 0.90 | | | | | | | 0.60 | | | 25 |
| 26 | | 2.61 | | | 0.80 | | | | | | | 0.69 | | | 26 |
| 27 | | 2.54 | | | 0.80 | | | | | | | 0.75 | | | 27 |
| 28 | | 2.76 | | | 0.80 | | | | | | | 0.74 | | | 28 |
| 29 | | 2.24 | | | 0.80 | | | | | | | 0.70 | | | 29 |
| 30 | | 2.79 | | | 0.70 | | | | | | | 0.75 | | | 30 |
| 31 | | 2.34 | | | 0.80 | | | | | | | 0.69 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( SEP 1984 )

| DATE | PRE-CHLORINATION Cl2 Dem. | PRE-CHLORINATION Cl2 Dos. * | PRE-CHLORINATION NH3 | PRE-CHLORINATION SO2 | PRE-CHLORINATION RESIDUAL Cl2 Free | PRE-CHLORINATION RESIDUAL Cl2 Comb. | PRE-CHLORINATION RESIDUAL Cl2 Total | POST-CHLORINATION Cl2 Dem. | POST-CHLORINATION Cl2 Dos. | POST-CHLORINATION NH3 | POST-CHLORINATION SO2 | POST-CHLORINATION RESIDUAL Cl2 Free | POST-CHLORINATION RESIDUAL Cl2 Comb. | POST-CHLORINATION RESIDUAL Cl2 Total | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 2.43 | | | 0.70 | | | | | | | 0.71 | | | 1 |
| 2 | | 2.61 | | | 0.80 | | | | | | | 0.73 | | | 2 |
| 3 | | 2.56 | | | 0.80 | | | | | | | 0.70 | | | 3 |
| 4 | | 2.59 | | | 0.80 | | | | | | | 0.76 | | | 4 |
| 5 | | 2.16 | | | 0.70 | | | | | | | 0.69 | | | 5 |
| 6 | | 2.34 | | | 0.70 | | | | | | | 0.70 | | | 6 |
| 7 | | 2.15 | | | 0.80 | | | | | | | 0.72 | | | 7 |
| 8 | | 2.14 | | | 0.80 | | | | | | | 0.75 | | | 8 |
| 9 | | 2.18 | | | 0.90 | | | | | | | 0.75 | | | 9 |
| 10 | | 2.00 | | | 0.80 | | | | | | | 0.70 | | | 10 |
| 11 | | 2.58 | | | 0.80 | | | | | | | 0.70 | | | 11 |
| 12 | | 2.28 | | | 0.80 | | | | | | | 0.71 | | | 12 |
| 13 | | 2.74 | | | 1.40 | | | | | | | 0.73 | | | 13 |
| 14 | | 2.77 | | | 1.20 | | | | | | | 0.70 | | | 14 |
| 15 | | 2.18 | | | 0.80 | | | | | | | 0.72 | | | 15 |
| 16 | | 2.12 | | | 0.60 | | | | | | | 0.63 | | | 16 |
| 17 | | 2.74 | | | 0.70 | | | | | | | 0.72 | | | 17 |
| 18 | | 2.50 | | | 0.80 | | | | | | | 0.72 | | | 18 |
| 19 | | 2.53 | | | 0.90 | | | | | | | 0.69 | | | 19 |
| 20 | | 2.45 | | | 0.80 | | | | | | | 0.72 | | | 20 |
| 21 | | 2.74 | | | 0.80 | | | | | | | 0.73 | | | 21 |
| 22 | | 1.97 | | | 0.85 | | | | | | | 0.71 | | | 22 |
| 23 | | 2.00 | | | 0.80 | | | | | | | 0.75 | | | 23 |
| 24 | | 2.04 | | | 0.80 | | | | | | | 0.75 | | | 24 |
| 25 | | 2.21 | | | 0.85 | | | | | | | 0.72 | | | 25 |
| 26 | | 3.03 | | | 0.80 | | | | | | | 0.62 | | | 26 |
| 27 | | 1.74 | | | 0.70 | | | | | | | 0.70 | | | 27 |
| 28 | | 2.45 | | | 0.80 | | | | | | | 0.79 | | | 28 |
| 29 | | 2.54 | | | 0.80 | | | | | | | 0.75 | | | 29 |
| 30 | | 2.07 | | | 0.80 | | | | | | | 0.70 | | | 30 |
| 31 | | | | | | | | | | | | | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( OCT 1984 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 1.92 | | | 0.80 | | | | | | | 0.69 | | | 1 |
| 2 | | 2.12 | | | 0.85 | | | | | | | 0.69 | | | 2 |
| 3 | | 2.82 | | | 0.80 | | | | | | | 0.65 | | | 3 |
| 4 | | 2.55 | | | 0.80 | | | | | | | 0.69 | | | 4 |
| 5 | | 2.29 | | | 0.80 | | | | | | | 0.67 | | | 5 |
| 6 | | 2.55 | | | 0.80 | | | | | | | 0.70 | | | 6 |
| 7 | | 2.61 | | | 0.70 | | | | | | | 0.73 | | | 7 |
| 8 | | 2.16 | | | 0.80 | | | | | | | 0.72 | | | 8 |
| 9 | | 2.69 | | | 0.80 | | | | | | | 0.71 | | | 9 |
| 10 | | 3.01 | | | 0.70 | | | | | | | 0.70 | | | 10 |
| 11 | | 2.85 | | | 0.70 | | | | | | | 0.71 | | | 11 |
| 12 | | 3.26 | | | 0.70 | | | | | | | 0.74 | | | 12 |
| 13 | | 2.85 | | | 0.70 | | | | | | | 0.77 | | | 13 |
| 14 | | 2.82 | | | 0.70 | | | | | | | 0.67 | | | 14 |
| 15 | | 3.09 | | | 0.60 | | | | | | | 0.68 | | | 15 |
| 16 | | 3.04 | | | 0.70 | | | | | | | 0.63 | | | 16 |
| 17 | | 3.10 | | | 0.65 | | | | | | | 0.55 | | | 17 |
| 18 | | 3.15 | | | 0.70 | | | | | | | 0.57 | | | 18 |
| 19 | | 3.76 | | | 0.60 | | | | | | | 0.60 | | | 19 |
| 20 | | 2.81 | | | 0.85 | | | | | | | 0.72 | | | 20 |
| 21 | | 3.47 | | | 0.80 | | | | | | | 0.68 | | | 21 |
| 22 | | 2.80 | | | 0.70 | | | | | | | 0.70 | | | 22 |
| 23 | | 3.40 | | | 0.80 | | | | | | | 0.78 | | | 23 |
| 24 | | 2.19 | | | 1.00 | | | | | | | 0.75 | | | 24 |
| 25 | | 2.41 | | | 0.80 | | | | | | | 0.71 | | | 25 |
| 26 | | 2.73 | | | 0.70 | | | | | | | 0.69 | | | 26 |
| 27 | | 2.16 | | | 0.80 | | | | | | | 0.73 | | | 27 |
| 28 | | 2.23 | | | 0.70 | | | | | | | 0.75 | | | 28 |
| 29 | | 2.11 | | | 0.70 | | | | | | | 0.75 | | | 29 |
| 30 | | 2.13 | | | 0.75 | | | | | | | 0.68 | | | 30 |
| 31 | | 2.36 | | | | | | | | | | 0.71 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( NOV 1984 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.15 | | | 0.80 | | | | | | | 0.70 | | | 1 |
| 2 | | 1.97 | | | 0.75 | | | | | | | 0.69 | | | 2 |
| 3 | | 2.04 | | | 0.75 | | | | | | | 0.75 | | | 3 |
| 4 | | 2.23 | | | 0.80 | | | | | | | 0.72 | | | 4 |
| 5 | | 2.06 | | | 0.60 | | | | | | | 0.75 | | | 5 |
| 6 | | 2.11 | | | 0.70 | | | | | | | 0.68 | | | 6 |
| 7 | | 1.80 | | | 0.60 | | | | | | | 0.73 | | | 7 |
| 8 | | 1.88 | | | 0.90 | | | | | | | 0.65 | | | 8 |
| 9 | | 2.11 | | | 0.60 | | | | | | | 0.80 | | | 9 |
| 10 | | 1.99 | | | 0.80 | | | | | | | 0.92 | | | 10 |
| 11 | | 1.95 | | | 0.80 | | | | | | | 0.72 | | | 11 |
| 12 | | 1.90 | | | 0.60 | | | | | | | 0.68 | | | 12 |
| 13 | | 2.26 | | | 0.60 | | | | | | | 0.66 | | | 13 |
| 14 | | 2.15 | | | 0.60 | | | | | | | 0.77 | | | 14 |
| 15 | | 1.87 | | | 0.60 | | | | | | | 0.69 | | | 15 |
| 16 | | 2.10 | | | 0.60 | | | | | | | 0.75 | | | 16 |
| 17 | | 1.87 | | | 0.70 | | | | | | | 0.71 | | | 17 |
| 18 | | 2.10 | | | 0.70 | | | | | | | 0.69 | | | 18 |
| 19 | | 1.78 | | | 0.50 | | | | | | | 0.64 | | | 19 |
| 20 | | 2.11 | | | 0.70 | | | | | | | 0.65 | | | 20 |
| 21 | | 1.62 | | | 0.65 | | | | | | | 0.70 | | | 21 |
| 22 | | 1.49 | | | 0.60 | | | | | | | 0.69 | | | 22 |
| 23 | | 1.55 | | | 0.60 | | | | | | | 0.67 | | | 23 |
| 24 | | 1.89 | | | 0.60 | | | | | | | 0.57 | | | 24 |
| 25 | | 1.78 | | | 0.60 | | | | | | | 0.68 | | | 25 |
| 26 | | 1.72 | | | 0.70 | | | | | | | 0.73 | | | 26 |
| 27 | | 1.84 | | | 0.60 | | | | | | | 0.74 | | | 27 |
| 28 | | 2.00 | | | 0.60 | | | | | | | 0.73 | | | 28 |
| 29 | | 1.39 | | | 0.60 | | | | | | | 0.58 | | | 29 |
| 30 | | 2.02 | | | 0.70 | | | | | | | 0.69 | | | 30 |
| 31 | | | | | | | | | | | | | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( DEC 1984 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.07 | | | 0.70 | | | | | | | 0.72 | | | 1 |
| 2 | | 1.78 | | | 0.70 | | | | | | | 0.69 | | | 2 |
| 3 | | 1.19 | | | 0.70 | | | | | | | 0.66 | | | 3 |
| 4 | | 2.43 | | | 0.60 | | | | | | | 0.58 | | | 4 |
| 5 | | 2.23 | | | 0.60 | | | | | | | 0.70 | | | 5 |
| 6 | | 1.77 | | | 0.50 | | | | | | | 0.78 | | | 6 |
| 7 | | 1.67 | | | 0.60 | | | | | | | 0.77 | | | 7 |
| 8 | | 1.54 | | | 0.60 | | | | | | | 0.65 | | | 8 |
| 9 | | 1.47 | | | 0.50 | | | | | | | 0.73 | | | 9 |
| 10 | | 1.55 | | | 0.60 | | | | | | | 0.68 | | | 10 |
| 11 | | 2.33 | | | 0.60 | | | | | | | 0.69 | | | 11 |
| 12 | | 1.76 | | | 0.60 | | | | | | | 0.69 | | | 12 |
| 13 | | 1.96 | | | 0.70 | | | | | | | 0.70 | | | 13 |
| 14 | | 1.65 | | | 0.60 | | | | | | | 0.70 | | | 14 |
| 15 | | 1.72 | | | 0.65 | | | | | | | 0.71 | | | 15 |
| 16 | | 2.20 | | | 0.60 | | | | | | | 0.66 | | | 16 |
| 17 | | 2.06 | | | 0.70 | | | | | | | 0.64 | | | 17 |
| 18 | | 1.81 | | | 0.60 | | | | | | | 0.68 | | | 18 |
| 19 | | 1.95 | | | 0.70 | | | | | | | 0.64 | | | 19 |
| 20 | | 1.89 | | | 0.60 | | | | | | | 0.63 | | | 20 |
| 21 | | 2.08 | | | 0.50 | | | | | | | 0.65 | | | 21 |
| 22 | | 2.08 | | | 0.70 | | | | | | | 0.72 | | | 22 |
| 23 | | 1.82 | | | 1.20 | | | | | | | 0.61 | | | 23 |
| 24 | | 3.68 | | | 1.00 | | | | | | | 0.60 | | | 24 |
| 25 | | 2.35 | | | 1.20 | | | | | | | 0.80 | | | 25 |
| 26 | | 1.90 | | | 1.40 | | | | | | | 0.79 | | | 26 |
| 27 | | 2.09 | | | 0.70 | | | | | | | 0.70 | | | 27 |
| 28 | | 1.93 | | | 0.60 | | | | | | | 0.69 | | | 28 |
| 29 | | 2.76 | | | 0.70 | | | | | | | 0.65 | | | 29 |
| 30 | | 2.70 | | | 0.70 | | | | | | | 0.64 | | | 30 |
| 31 | | 2.05 | | | 0.70 | | | | | | | 0.65 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( JAN 1985 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.71 | | | 0.70 | | | | | | | 0.66 | | | 1 |
| 2 | | 3.88 | | | 0.75 | | | | | | | 0.71 | | | 2 |
| 3 | | 3.13 | | | 1.00 | | | | | | | 0.88 | | | 3 |
| 4 | | 2.66 | | | 0.80 | | | | | | | 0.72 | | | 4 |
| 5 | | 2.06 | | | 0.70 | | | | | | | 0.73 | | | 5 |
| 6 | | 1.44 | | | 0.90 | | | | | | | 0.74 | | | 6 |
| 7 | | 2.39 | | | 0.90 | | | | | | | 0.72 | | | 7 |
| 8 | | 2.64 | | | 1.00 | | | | | | | 0.75 | | | 8 |
| 9 | | 3.51 | | | 1.00 | | | | | | | 0.69 | | | 9 |
| 10 | | 2.26 | | | 0.90 | | | | | | | 0.70 | | | 10 |
| 11 | | 2.02 | | | 0.75 | | | | | | | 0.73 | | | 11 |
| 12 | | 2.20 | | | 0.70 | | | | | | | 0.71 | | | 12 |
| 13 | | 1.50 | | | 0.70 | | | | | | | 0.70 | | | 13 |
| 14 | | 1.70 | | | 0.50 | | | | | | | 0.50 | | | 14 |
| 15 | | 2.20 | | | 0.70 | | | | | | | 0.50 | | | 15 |
| 16 | | 2.20 | | | 0.80 | | | | | | | 0.50 | | | 16 |
| 17 | | 2.50 | | | 0.40 | | | | | | | 0.50 | | | 17 |
| 18 | | 1.80 | | | 0.60 | | | | | | | 0.61 | | | 18 |
| 19 | | 1.65 | | | 0.70 | | | | | | | 0.54 | | | 19 |
| 20 | | 1.91 | | | 0.90 | | | | | | | 0.57 | | | 20 |
| 21 | | 2.25 | | | 1.00 | | | | | | | 0.50 | | | 21 |
| 22 | | 2.24 | | | 0.60 | | | | | | | 0.50 | | | 22 |
| 23 | | 2.47 | | | 1.00 | | | | | | | 0.60 | | | 23 |
| 24 | | 1.70 | | | 0.80 | | | | | | | 0.62 | | | 24 |
| 25 | | 2.06 | | | 0.75 | | | | | | | 0.71 | | | 25 |
| 26 | | 2.13 | | | 0.80 | | | | | | | 0.70 | | | 26 |
| 27 | | 2.65 | | | 0.80 | | | | | | | 0.69 | | | 27 |
| 28 | | 2.50 | | | 1.00 | | | | | | | 0.60 | | | 28 |
| 29 | | 2.52 | | | 0.60 | | | | | | | 0.80 | | | 29 |
| 30 | | 2.28 | | | 0.60 | | | | | | | 0.70 | | | 30 |
| 31 | | 2.39 | | | 0.70 | | | | | | | 0.65 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( FEB 1985 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.10 | | | 0.70 | | | | | | | 0.69 | | | 1 |
| 2 | | 2.10 | | | 0.80 | | | | | | | 0.72 | | | 2 |
| 3 | | 2.20 | | | 0.80 | | | | | | | 0.68 | | | 3 |
| 4 | | 2.70 | | | 0.80 | | | | | | | 0.60 | | | 4 |
| 5 | | 1.80 | | | 0.90 | | | | | | | 0.65 | | | 5 |
| 6 | | 2.30 | | | 0.90 | | | | | | | 0.65 | | | 6 |
| 7 | | 2.20 | | | 0.80 | | | | | | | 0.70 | | | 7 |
| 8 | | 2.32 | | | 0.80 | | | | | | | 0.76 | | | 8 |
| 9 | | 2.09 | | | 0.80 | | | | | | | 0.70 | | | 9 |
| 10 | | 2.12 | | | 0.80 | | | | | | | 0.75 | | | 10 |
| 11 | | 2.11 | | | 0.90 | | | | | | | 0.71 | | | 11 |
| 12 | | 2.14 | | | 0.80 | | | | | | | 0.72 | | | 12 |
| 13 | | 2.26 | | | 0.90 | | | | | | | 0.71 | | | 13 |
| 14 | | 1.76 | | | 0.80 | | | | | | | 0.64 | | | 14 |
| 15 | | 2.02 | | | 0.80 | | | | | | | 0.70 | | | 15 |
| 16 | | 1.90 | | | 0.60 | | | | | | | 0.68 | | | 16 |
| 17 | | 2.09 | | | 1.00 | | | | | | | 0.64 | | | 17 |
| 18 | | 1.89 | | | 1.00 | | | | | | | 0.65 | | | 18 |
| 19 | | 1.90 | | | 0.80 | | | | | | | 0.60 | | | 19 |
| 20 | | 2.33 | | | 0.90 | | | | | | | 0.60 | | | 20 |
| 21 | | 2.39 | | | 0.80 | | | | | | | 0.65 | | | 21 |
| 22 | | 1.96 | | | 1.00 | | | | | | | 0.65 | | | 22 |
| 23 | | 1.57 | | | 0.75 | | | | | | | 0.72 | | | 23 |
| 24 | | 2.20 | | | 0.80 | | | | | | | 0.60 | | | 24 |
| 25 | | 1.98 | | | 0.80 | | | | | | | 0.60 | | | 25 |
| 26 | | 2.10 | | | 1.00 | | | | | | | 0.65 | | | 26 |
| 27 | | 2.25 | | | 0.80 | | | | | | | 0.61 | | | 27 |
| 28 | | 3.01 | | | 0.80 | | | | | | | 0.60 | | | 28 |
| 29 | | | | | | | | | | | | | | | 29 |
| 30 | | | | | | | | | | | | | | | 30 |
| 31 | | | | | | | | | | | | | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( MAR 1985 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.55 | | | 0.80 | | | | | | | 0.53 | | | 1 |
| 2 | | 2.71 | | | 0.70 | | | | | | | 0.59 | | | 2 |
| 3 | | 3.03 | | | 0.80 | | | | | | | 0.55 | | | 3 |
| 4 | | 2.63 | | | 0.80 | | | | | | | 0.59 | | | 4 |
| 5 | | 2.53 | | | 0.70 | | | | | | | 0.73 | | | 5 |
| 6 | | 2.71 | | | 1.00 | | | | | | | 0.60 | | | 6 |
| 7 | | 2.75 | | | 0.80 | | | | | | | 0.60 | | | 7 |
| 8 | | 2.72 | | | 0.60 | | | | | | | 0.71 | | | 8 |
| 9 | | 2.44 | | | 0.70 | | | | | | | 0.62 | | | 9 |
| 10 | | 2.95 | | | 0.70 | | | | | | | 0.62 | | | 10 |
| 11 | | 2.70 | | | 0.50 | | | | | | | 0.54 | | | 11 |
| 12 | | 3.33 | | | 0.70 | | | | | | | 0.65 | | | 12 |
| 13 | | 2.74 | | | 1.00 | | | | | | | 0.65 | | | 13 |
| 14 | | 2.27 | | | 0.60 | | | | | | | 0.60 | | | 14 |
| 15 | | 2.71 | | | 1.00 | | | | | | | 0.64 | | | 15 |
| 16 | | 2.19 | | | 1.20 | | | | | | | 0.67 | | | 16 |
| 17 | | 2.71 | | | 0.80 | | | | | | | 0.65 | | | 17 |
| 18 | | 2.68 | | | 0.80 | | | | | | | 0.55 | | | 18 |
| 19 | | 2.31 | | | 1.00 | | | | | | | 0.65 | | | 19 |
| 20 | | 2.45 | | | 0.70 | | | | | | | 0.60 | | | 20 |
| 21 | | 2.56 | | | 0.70 | | | | | | | 0.60 | | | 21 |
| 22 | | 2.52 | | | 0.70 | | | | | | | 0.65 | | | 22 |
| 23 | | 2.31 | | | 0.60 | | | | | | | 0.65 | | | 23 |
| 24 | | 2.35 | | | 0.60 | | | | | | | 0.63 | | | 24 |
| 25 | | 2.21 | | | 0.80 | | | | | | | 0.60 | | | 25 |
| 26 | | 2.77 | | | 0.70 | | | | | | | 0.50 | | | 26 |
| 27 | | 2.01 | | | 0.50 | | | | | | | 0.60 | | | 27 |
| 28 | | 2.37 | | | 0.60 | | | | | | | 0.50 | | | 28 |
| 29 | | 3.68 | | | 0.50 | | | | | | | 0.41 | | | 29 |
| 30 | | 3.70 | | | 0.70 | | | | | | | 0.73 | | | 30 |
| 31 | | 3.20 | | | 1.20 | | | | | | | 0.66 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( APR 1985 )

| DATE | PRE-CHLORINATION Cl2 Dem. | PRE-CHLORINATION Cl2 Dos. * | PRE-CHLORINATION NH3 | PRE-CHLORINATION SO2 | PRE-CHLORINATION RESIDUAL Cl2 Free | PRE-CHLORINATION RESIDUAL Cl2 Comb. | PRE-CHLORINATION RESIDUAL Cl2 Total | POST-CHLORINATION Cl2 Dem. | POST-CHLORINATION Cl2 Dos. | POST-CHLORINATION NH3 | POST-CHLORINATION SO2 | POST-CHLORINATION RESIDUAL Cl2 Free | POST-CHLORINATION RESIDUAL Cl2 Comb. | POST-CHLORINATION RESIDUAL Cl2 Total | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | 3.25 | | | 0.90 | | | | | | | 0.70 | | | 1 |
| 2 | | 2.90 | | | 1.00 | | | | | | | 0.48 | | | 2 |
| 3 | | 3.20 | | | 1.00 | | | | | | | 0.62 | | | 3 |
| 4 | | 3.04 | | | 1.40 | | | | | | | 0.79 | | | 4 |
| 5 | | 2.36 | | | 1.00 | | | | | | | 0.82 | | | 5 |
| 6 | | 2.28 | | | 0.80 | | | | | | | 0.72 | | | 6 |
| 7 | | 2.59 | | | 1.00 | | | | | | | 0.69 | | | 7 |
| 8 | | 3.02 | | | 1.00 | | | | | | | 0.69 | | | 8 |
| 9 | | 2.98 | | | 1.00 | | | | | | | 0.73 | | | 9 |
| 10 | | 3.12 | | | 1.00 | | | | | | | 0.65 | | | 10 |
| 11 | | 2.83 | | | 1.00 | | | | | | | 0.72 | | | 11 |
| 12 | | 1.18 | | | 0.60 | | | | | | | 0.85 | | | 12 |
| 13 | | 1.68 | | | 0.70 | | | | | | | 0.55 | | | 13 |
| 14 | | 1.93 | | | 0.80 | | | | | | | 0.63 | | | 14 |
| 15 | | 2.79 | | | 0.70 | | | | | | | 0.82 | | | 15 |
| 16 | | 1.89 | | | 0.75 | | | | | | | 0.80 | | | 16 |
| 17 | | 1.96 | | | 1.00 | | | | | | | 0.72 | | | 17 |
| 18 | | 2.17 | | | 0.90 | | | | | | | 0.60 | | | 18 |
| 19 | | 2.54 | | | 0.80 | | | | | | | 0.75 | | | 19 |
| 20 | | 2.62 | | | 0.70 | | | | | | | 0.72 | | | 20 |
| 21 | | 2.64 | | | 1.00 | | | | | | | 0.75 | | | 21 |
| 22 | | 2.45 | | | 0.90 | | | | | | | 0.77 | | | 22 |
| 23 | | 2.41 | | | 0.80 | | | | | | | 0.77 | | | 23 |
| 24 | | 2.34 | | | 1.00 | | | | | | | 0.72 | | | 24 |
| 25 | | 2.33 | | | 0.80 | | | | | | | 0.75 | | | 25 |
| 26 | | 2.15 | | | 1.00 | | | | | | | 0.82 | | | 26 |
| 27 | | 2.16 | | | 1.00 | | | | | | | 0.76 | | | 27 |
| 28 | | 1.88 | | | 1.00 | | | | | | | 0.65 | | | 28 |
| 29 | | 2.32 | | | 1.00 | | | | | | | 0.45 | | | 29 |
| 30 | | 2.45 | | | 1.00 | | | | | | | 0.65 | | | 30 |
| 31 | | | | | | | | | | | | | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( MAY 1985 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.58 | | | 0.80 | | | | | | | 0.65 | | | 1 |
| 2 | | 3.08 | | | 0.80 | | | | | | | 0.45 | | | 2 |
| 3 | | 2.83 | | | 1.40 | | | | | | | 0.68 | | | 3 |
| 4 | | 2.66 | | | 0.90 | | | | | | | 0.73 | | | 4 |
| 5 | | 2.73 | | | 0.90 | | | | | | | 0.66 | | | 5 |
| 6 | | 2.31 | | | 0.90 | | | | | | | 0.40 | | | 6 |
| 7 | | 2.97 | | | 0.80 | | | | | | | 0.65 | | | 7 |
| 8 | | 2.50 | | | 1.00 | | | | | | | 0.76 | | | 8 |
| 9 | | 2.43 | | | 0.60 | | | | | | | 0.70 | | | 9 |
| 10 | | 2.40 | | | 0.80 | | | | | | | 0.69 | | | 10 |
| 11 | | 1.87 | | | 1.40 | | | | | | | 0.89 | | | 11 |
| 12 | | 1.80 | | | 1.00 | | | | | | | 0.85 | | | 12 |
| 13 | | 1.78 | | | 1.10 | | | | | | | 0.77 | | | 13 |
| 14 | | 1.53 | | | 1.00 | | | | | | | 0.76 | | | 14 |
| 15 | | 1.77 | | | 1.10 | | | | | | | 0.69 | | | 15 |
| 16 | | 1.77 | | | 1.00 | | | | | | | 0.73 | | | 16 |
| 17 | | 1.80 | | | 0.80 | | | | | | | 0.71 | | | 17 |
| 18 | | 2.48 | | | 0.70 | | | | | | | 0.69 | | | 18 |
| 19 | | 2.43 | | | 0.80 | | | | | | | 0.72 | | | 19 |
| 20 | | 2.05 | | | 0.80 | | | | | | | 0.73 | | | 20 |
| 21 | | 2.70 | | | 0.90 | | | | | | | 0.70 | | | 21 |
| 22 | | 2.40 | | | 1.00 | | | | | | | 0.73 | | | 22 |
| 23 | | 2.11 | | | 1.00 | | | | | | | 0.70 | | | 23 |
| 24 | | 1.85 | | | 1.00 | | | | | | | 0.67 | | | 24 |
| 25 | | 2.08 | | | 1.00 | | | | | | | 0.54 | | | 25 |
| 26 | | 1.84 | | | 1.10 | | | | | | | 0.70 | | | 26 |
| 27 | | 2.12 | | | 0.90 | | | | | | | 0.60 | | | 27 |
| 28 | | 1.50 | | | 0.90 | | | | | | | 0.55 | | | 28 |
| 29 | | 2.05 | | | 1.00 | | | | | | | 0.40 | | | 29 |
| 30 | | 2.52 | | | 0.90 | | | | | | | 0.42 | | | 30 |
| 31 | | 2.39 | | | 0.80 | | | | | | | 0.60 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( JUN 1985 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.28 | | | 0.70 | | | | | | | 0.73 | | | 1 |
| 2 | | 2.81 | | | 0.80 | | | | | | | 0.66 | | | 2 |
| 3 | | 2.51 | | | 0.80 | | | | | | | 0.77 | | | 3 |
| 4 | | 2.33 | | | 0.90 | | | | | | | 0.66 | | | 4 |
| 5 | | 2.28 | | | 1.00 | | | | | | | 0.61 | | | 5 |
| 6 | | 1.96 | | | 1.00 | | | | | | | 0.64 | | | 6 |
| 7 | | 2.67 | | | 1.00 | | | | | | | 0.67 | | | 7 |
| 8 | | 2.41 | | | 0.80 | | | | | | | 0.72 | | | 8 |
| 9 | | 2.50 | | | 0.80 | | | | | | | 0.76 | | | 9 |
| 10 | | 2.50 | | | 1.40 | | | | | | | 0.75 | | | 10 |
| 11 | | 2.74 | | | 1.40 | | | | | | | 0.75 | | | 11 |
| 12 | | 2.28 | | | 0.70 | | | | | | | 0.72 | | | 12 |
| 13 | | 2.54 | | | 1.00 | | | | | | | 0.69 | | | 13 |
| 14 | | 2.68 | | | 0.80 | | | | | | | 0.69 | | | 14 |
| 15 | | 2.25 | | | 1.00 | | | | | | | 0.71 | | | 15 |
| 16 | | 2.44 | | | 0.60 | | | | | | | 0.65 | | | 16 |
| 17 | | 2.39 | | | 0.60 | | | | | | | 0.65 | | | 17 |
| 18 | | 2.52 | | | 0.60 | | | | | | | 0.60 | | | 18 |
| 19 | | 2.10 | | | 0.80 | | | | | | | 0.65 | | | 19 |
| 20 | | 2.47 | | | 0.80 | | | | | | | 0.55 | | | 20 |
| 21 | | 2.78 | | | 0.90 | | | | | | | 0.73 | | | 21 |
| 22 | | 2.66 | | | 0.70 | | | | | | | 0.70 | | | 22 |
| 23 | | 2.27 | | | 0.80 | | | | | | | 0.70 | | | 23 |
| 24 | | 1.97 | | | 0.80 | | | | | | | 0.73 | | | 24 |
| 25 | | 1.91 | | | 0.70 | | | | | | | 0.69 | | | 25 |
| 26 | | 2.31 | | | 1.00 | | | | | | | 0.70 | | | 26 |
| 27 | | 2.04 | | | 0.80 | | | | | | | 0.71 | | | 27 |
| 28 | | 2.03 | | | 0.80 | | | | | | | 0.69 | | | 28 |
| 29 | | 2.17 | | | 0.80 | | | | | | | 0.72 | | | 29 |
| 30 | | 2.36 | | | 0.80 | | | | | | | 0.71 | | | 30 |
| 31 | | | | | | | | | | | | | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( JUL 1985 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 3.43 | | | 1.00 | | | | | | | 0.70 | | | 1 |
| 2 | | 2.45 | | | 1.00 | | | | | | | 0.71 | | | 2 |
| 3 | | 2.51 | | | 0.80 | | | | | | | 0.65 | | | 3 |
| 4 | | 3.13 | | | 0.60 | | | | | | | 0.57 | | | 4 |
| 5 | | 2.63 | | | 0.90 | | | | | | | 0.72 | | | 5 |
| 6 | | 2.53 | | | 0.50 | | | | | | | 0.71 | | | 6 |
| 7 | | 2.54 | | | 0.80 | | | | | | | 0.75 | | | 7 |
| 8 | | 2.45 | | | 0.70 | | | | | | | 0.67 | | | 8 |
| 9 | | 2.20 | | | 0.80 | | | | | | | 0.65 | | | 9 |
| 10 | | 2.37 | | | 1.00 | | | | | | | 0.68 | | | 10 |
| 11 | | 2.51 | | | 0.90 | | | | | | | 0.65 | | | 11 |
| 12 | | 1.97 | | | 1.00 | | | | | | | 0.75 | | | 12 |
| 13 | | 2.09 | | | 0.80 | | | | | | | 0.70 | | | 13 |
| 14 | | 1.80 | | | 0.80 | | | | | | | 0.56 | | | 14 |
| 15 | | 2.26 | | | 0.60 | | | | | | | 0.60 | | | 15 |
| 16 | | 2.79 | | | 0.70 | | | | | | | 0.55 | | | 16 |
| 17 | | 2.59 | | | 0.80 | | | | | | | 0.65 | | | 17 |
| 18 | | 2.22 | | | 1.00 | | | | | | | 0.45 | | | 18 |
| 19 | | 2.38 | | | 1.00 | | | | | | | 0.59 | | | 19 |
| 20 | | 2.25 | | | 1.00 | | | | | | | 0.65 | | | 20 |
| 21 | | 2.31 | | | 1.00 | | | | | | | 0.63 | | | 21 |
| 22 | | 2.55 | | | 1.10 | | | | | | | 0.64 | | | 22 |
| 23 | | 2.09 | | | 1.40 | | | | | | | 0.73 | | | 23 |
| 24 | | 2.01 | | | 1.10 | | | | | | | 0.59 | | | 24 |
| 25 | | 2.13 | | | 1.20 | | | | | | | 0.68 | | | 25 |
| 26 | | 2.21 | | | 1.10 | | | | | | | 0.55 | | | 26 |
| 27 | | 2.24 | | | 1.00 | | | | | | | 0.72 | | | 27 |
| 28 | | 2.31 | | | 1.00 | | | | | | | 0.69 | | | 28 |
| 29 | | 1.87 | | | 0.90 | | | | | | | 0.60 | | | 29 |
| 30 | | 2.90 | | | 1.00 | | | | | | | 0.65 | | | 30 |
| 31 | | 3.10 | | | 0.90 | | | | | | | 0.60 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( AUG 1985 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.40 | | | 1.00 | | | | | | | 0.67 | | | 1 |
| 2 | | 2.76 | | | 1.00 | | | | | | | 0.68 | | | 2 |
| 3 | | 2.67 | | | 1.10 | | | | | | | 0.73 | | | 3 |
| 4 | | 2.75 | | | 1.20 | | | | | | | 0.76 | | | 4 |
| 5 | | 2.67 | | | 1.40 | | | | | | | 0.79 | | | 5 |
| 6 | | 2.90 | | | 0.90 | | | | | | | 0.77 | | | 6 |
| 7 | | 2.38 | | | 1.40 | | | | | | | 0.80 | | | 7 |
| 8 | | 2.19 | | | 1.00 | | | | | | | 0.65 | | | 8 |
| 9 | | 2.20 | | | 0.90 | | | | | | | 0.71 | | | 9 |
| 10 | | 2.04 | | | 1.10 | | | | | | | 0.73 | | | 10 |
| 11 | | 2.34 | | | 1.00 | | | | | | | 0.72 | | | 11 |
| 12 | | 2.10 | | | 1.10 | | | | | | | 0.62 | | | 12 |
| 13 | | 2.27 | | | 0.80 | | | | | | | 0.57 | | | 13 |
| 14 | | 2.38 | | | 0.70 | | | | | | | 0.65 | | | 14 |
| 15 | | 2.73 | | | 0.70 | | | | | | | 0.73 | | | 15 |
| 16 | | 2.10 | | | 0.80 | | | | | | | 0.72 | | | 16 |
| 17 | | 2.68 | | | 0.80 | | | | | | | 0.74 | | | 17 |
| 18 | | 2.85 | | | 0.80 | | | | | | | 0.71 | | | 18 |
| 19 | | 3.34 | | | 0.80 | | | | | | | 0.73 | | | 19 |
| 20 | | 2.84 | | | 0.90 | | | | | | | 0.75 | | | 20 |
| 21 | | 3.18 | | | 0.90 | | | | | | | 0.68 | | | 21 |
| 22 | | 3.32 | | | 0.90 | | | | | | | 0.70 | | | 22 |
| 23 | | 2.51 | | | 0.90 | | | | | | | 0.73 | | | 23 |
| 24 | | 2.54 | | | 0.90 | | | | | | | 0.69 | | | 24 |
| 25 | | 3.59 | | | 0.90 | | | | | | | 0.73 | | | 25 |
| 26 | | 2.80 | | | 0.90 | | | | | | | 0.69 | | | 26 |
| 27 | | 2.76 | | | 0.80 | | | | | | | 0.71 | | | 27 |
| 28 | | 2.80 | | | 0.80 | | | | | | | 0.73 | | | 28 |
| 29 | | 3.28 | | | 1.00 | | | | | | | 0.73 | | | 29 |
| 30 | | 2.95 | | | 0.90 | | | | | | | 0.72 | | | 30 |
| 31 | | 2.88 | | | 0.80 | | | | | | | 0.71 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( SEP 1985 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.67 | | | 0.80 | | | | | | | 0.74 | | | 1 |
| 2 | | 2.51 | | | 0.90 | | | | | | | 0.72 | | | 2 |
| 3 | | 2.37 | | | 0.80 | | | | | | | 0.67 | | | 3 |
| 4 | | 2.48 | | | 0.70 | | | | | | | 0.69 | | | 4 |
| 5 | | 2.50 | | | 0.85 | | | | | | | 0.74 | | | 5 |
| 6 | | 2.88 | | | 0.90 | | | | | | | 0.73 | | | 6 |
| 7 | | 1.58 | | | 0.90 | | | | | | | 0.74 | | | 7 |
| 8 | | 2.28 | | | 0.60 | | | | | | | 0.63 | | | 8 |
| 9 | | 2.44 | | | 0.80 | | | | | | | 0.72 | | | 9 |
| 10 | | 2.50 | | | 0.80 | | | | | | | 0.69 | | | 10 |
| 11 | | 2.66 | | | 0.70 | | | | | | | 0.71 | | | 11 |
| 12 | | 2.90 | | | 0.80 | | | | | | | 0.60 | | | 12 |
| 13 | | 2.34 | | | 1.10 | | | | | | | 0.75 | | | 13 |
| 14 | | 2.83 | | | 0.60 | | | | | | | 0.59 | | | 14 |
| 15 | | 3.19 | | | 0.60 | | | | | | | 0.54 | | | 15 |
| 16 | | 3.51 | | | 0.50 | | | | | | | 0.59 | | | 16 |
| 17 | | 2.80 | | | 0.60 | | | | | | | 0.82 | | | 17 |
| 18 | | 3.04 | | | 1.00 | | | | | | | 0.62 | | | 18 |
| 19 | | 3.13 | | | 1.00 | | | | | | | 0.65 | | | 19 |
| 20 | | 2.74 | | | 1.00 | | | | | | | 0.66 | | | 20 |
| 21 | | 3.18 | | | 1.00 | | | | | | | 0.67 | | | 21 |
| 22 | | 2.17 | | | 1.00 | | | | | | | 0.69 | | | 22 |
| 23 | | 2.76 | | | 0.80 | | | | | | | 0.67 | | | 23 |
| 24 | | 2.42 | | | 1.00 | | | | | | | 0.66 | | | 24 |
| 25 | | 2.38 | | | 0.80 | | | | | | | 0.65 | | | 25 |
| 26 | | 2.63 | | | 0.80 | | | | | | | 0.63 | | | 26 |
| 27 | | 2.04 | | | 0.70 | | | | | | | 0.63 | | | 27 |
| 28 | | 1.99 | | | 1.00 | | | | | | | 0.70 | | | 28 |
| 29 | | 1.49 | | | 0.90 | | | | | | | 0.73 | | | 29 |
| 30 | | 2.69 | | | 0.80 | | | | | | | 0.69 | | | 30 |
| 31 | | | | | | | | | | | | | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( OCT 1985 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.73 | | | 0.90 | | | | | | | 0.72 | | | 1 |
| 2 | | 2.46 | | | 1.00 | | | | | | | 0.76 | | | 2 |
| 3 | | 2.01 | | | 1.00 | | | | | | | 0.72 | | | 3 |
| 4 | | 2.33 | | | 0.80 | | | | | | | 0.60 | | | 4 |
| 5 | | 2.80 | | | 0.80 | | | | | | | 0.67 | | | 5 |
| 6 | | 2.27 | | | 0.80 | | | | | | | 0.75 | | | 6 |
| 7 | | 2.02 | | | 0.80 | | | | | | | 0.64 | | | 7 |
| 8 | | 2.14 | | | 0.80 | | | | | | | 0.58 | | | 8 |
| 9 | | 2.26 | | | 0.80 | | | | | | | 0.72 | | | 9 |
| 10 | | 2.39 | | | 1.00 | | | | | | | 0.67 | | | 10 |
| 11 | | 1.99 | | | 1.00 | | | | | | | 0.75 | | | 11 |
| 12 | | 1.91 | | | 1.00 | | | | | | | 0.68 | | | 12 |
| 13 | | 1.87 | | | 0.80 | | | | | | | 0.62 | | | 13 |
| 14 | | 1.66 | | | 0.60 | | | | | | | 0.55 | | | 14 |
| 15 | | 2.52 | | | 0.80 | | | | | | | 0.53 | | | 15 |
| 16 | | 2.07 | | | 0.80 | | | | | | | 0.68 | | | 16 |
| 17 | | 2.38 | | | 1.00 | | | | | | | 0.65 | | | 17 |
| 18 | | 1.74 | | | 1.00 | | | | | | | 0.71 | | | 18 |
| 19 | | 2.89 | | | 0.70 | | | | | | | 0.69 | | | 19 |
| 20 | | 3.06 | | | 0.80 | | | | | | | 0.72 | | | 20 |
| 21 | | 2.99 | | | 0.90 | | | | | | | 0.62 | | | 21 |
| 22 | | 2.75 | | | 0.80 | | | | | | | 0.65 | | | 22 |
| 23 | | 2.80 | | | 0.70 | | | | | | | 0.49 | | | 23 |
| 24 | | 3.71 | | | 0.90 | | | | | | | 0.62 | | | 24 |
| 25 | | 3.49 | | | 0.70 | | | | | | | 0.58 | | | 25 |
| 26 | | 3.54 | | | 1.00 | | | | | | | 0.75 | | | 26 |
| 27 | | 1.99 | | | 1.00 | | | | | | | 0.72 | | | 27 |
| 28 | | 2.13 | | | 0.80 | | | | | | | 0.55 | | | 28 |
| 29 | | 2.10 | | | 0.80 | | | | | | | 0.69 | | | 29 |
| 30 | | 2.53 | | | 0.80 | | | | | | | 0.50 | | | 30 |
| 31 | | 2.86 | | | 0.90 | | | | | | | 0.65 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( NOV 1985 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 3.03 | | | 0.90 | | | | | | | 0.69 | | | 1 |
| 2 | | 3.13 | | | 0.90 | | | | | | | 0.72 | | | 2 |
| 3 | | 3.23 | | | 1.00 | | | | | | | 0.70 | | | 3 |
| 4 | | 2.71 | | | 0.90 | | | | | | | 0.70 | | | 4 |
| 5 | | 3.13 | | | 1.00 | | | | | | | 0.63 | | | 5 |
| 6 | | 3.00 | | | 1.00 | | | | | | | 0.91 | | | 6 |
| 7 | | 3.03 | | | 1.20 | | | | | | | 0.56 | | | 7 |
| 8 | | 2.98 | | | 1.20 | | | | | | | 0.55 | | | 8 |
| 9 | | 3.22 | | | 1.40 | | | | | | | 0.74 | | | 9 |
| 10 | | 2.49 | | | 1.40 | | | | | | | 0.92 | | | 10 |
| 11 | | 1.57 | | | 1.00 | | | | | | | 0.87 | | | 11 |
| 12 | | 2.28 | | | 1.00 | | | | | | | 0.62 | | | 12 |
| 13 | | 2.21 | | | 1.00 | | | | | | | 0.65 | | | 13 |
| 14 | | 2.24 | | | 1.20 | | | | | | | 0.82 | | | 14 |
| 15 | | 2.10 | | | 1.00 | | | | | | | 0.79 | | | 15 |
| 16 | | 1.98 | | | 0.80 | | | | | | | 0.81 | | | 16 |
| 17 | | 3.29 | | | 0.90 | | | | | | | 0.70 | | | 17 |
| 18 | | 3.53 | | | 0.90 | | | | | | | 0.72 | | | 18 |
| 19 | | 3.33 | | | 1.00 | | | | | | | 0.72 | | | 19 |
| 20 | | 3.26 | | | 1.00 | | | | | | | 0.65 | | | 20 |
| 21 | | 3.26 | | | 1.00 | | | | | | | 0.66 | | | 21 |
| 22 | | 3.00 | | | 1.00 | | | | | | | 0.77 | | | 22 |
| 23 | | 3.41 | | | 1.00 | | | | | | | 0.57 | | | 23 |
| 24 | | 2.81 | | | 1.40 | | | | | | | 0.84 | | | 24 |
| 25 | | 2.60 | | | 1.00 | | | | | | | 0.84 | | | 25 |
| 26 | | 2.71 | | | 1.20 | | | | | | | 0.82 | | | 26 |
| 27 | | 2.31 | | | 1.10 | | | | | | | 0.70 | | | 27 |
| 28 | | 2.04 | | | 1.00 | | | | | | | 0.78 | | | 28 |
| 29 | | 2.03 | | | 0.80 | | | | | | | 0.70 | | | 29 |
| 30 | | 2.79 | | | 0.80 | | | | | | | 0.71 | | | 30 |
| 31 | | | | | | | | | | | | | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( DEC 1985 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.17 | | | 0.90 | | | | | | | 0.72 | | | 1 |
| 2 | | 2.93 | | | 0.70 | | | | | | | 0.59 | | | 2 |
| 3 | | 2.53 | | | 1.00 | | | | | | | 0.89 | | | 3 |
| 4 | | 2.50 | | | 1.00 | | | | | | | 0.89 | | | 4 |
| 5 | | 2.63 | | | 1.00 | | | | | | | 0.77 | | | 5 |
| 6 | | 2.33 | | | 1.10 | | | | | | | 0.75 | | | 6 |
| 7 | | 1.92 | | | 1.00 | | | | | | | 0.71 | | | 7 |
| 8 | | 1.99 | | | 1.00 | | | | | | | 0.85 | | | 8 |
| 9 | | 2.68 | | | 1.40 | | | | | | | 0.86 | | | 9 |
| 10 | | 2.27 | | | 1.00 | | | | | | | 0.85 | | | 10 |
| 11 | | 2.59 | | | 1.00 | | | | | | | 0.90 | | | 11 |
| 12 | | 2.43 | | | 1.00 | | | | | | | 0.83 | | | 12 |
| 13 | | 2.27 | | | 0.90 | | | | | | | 0.82 | | | 13 |
| 14 | | 2.27 | | | 0.80 | | | | | | | 0.74 | | | 14 |
| 15 | | 2.70 | | | 0.90 | | | | | | | 0.75 | | | 15 |
| 16 | | 2.39 | | | 0.80 | | | | | | | 0.71 | | | 16 |
| 17 | | 2.26 | | | 0.80 | | | | | | | 0.59 | | | 17 |
| 18 | | 1.69 | | | 0.90 | | | | | | | 0.59 | | | 18 |
| 19 | | 1.85 | | | 0.70 | | | | | | | 0.58 | | | 19 |
| 20 | | 2.28 | | | 0.80 | | | | | | | 0.62 | | | 20 |
| 21 | | 2.17 | | | 0.80 | | | | | | | 0.61 | | | 21 |
| 22 | | 2.06 | | | 0.90 | | | | | | | 0.60 | | | 22 |
| 23 | | 2.41 | | | 0.80 | | | | | | | 0.65 | | | 23 |
| 24 | | 2.40 | | | 0.80 | | | | | | | 0.69 | | | 24 |
| 25 | | 1.91 | | | 0.80 | | | | | | | 0.67 | | | 25 |
| 26 | | 1.97 | | | 0.90 | | | | | | | 0.56 | | | 26 |
| 27 | | 2.04 | | | 1.00 | | | | | | | 0.56 | | | 27 |
| 28 | | 2.02 | | | 1.00 | | | | | | | 0.63 | | | 28 |
| 29 | | 2.27 | | | 0.80 | | | | | | | 0.66 | | | 29 |
| 30 | | 1.91 | | | 0.90 | | | | | | | 0.82 | | | 30 |
| 31 | | 2.23 | | | 0.80 | | | | | | | 0.74 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( JAN 1986 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.00 | | | 0.80 | | | | | | | 0.71 | | | 1 |
| 2 | | 1.93 | | | 0.80 | | | | | | | 0.69 | | | 2 |
| 3 | | 2.05 | | | 0.80 | | | | | | | 0.72 | | | 3 |
| 4 | | 2.09 | | | 1.00 | | | | | | | 0.78 | | | 4 |
| 5 | | 2.03 | | | 1.00 | | | | | | | 0.69 | | | 5 |
| 6 | | 1.98 | | | 1.00 | | | | | | | 0.71 | | | 6 |
| 7 | | 1.62 | | | 1.00 | | | | | | | 0.92 | | | 7 |
| 8 | | 1.47 | | | 1.00 | | | | | | | 0.88 | | | 8 |
| 9 | | 1.23 | | | 1.00 | | | | | | | 0.68 | | | 9 |
| 10 | | 2.12 | | | 0.60 | | | | | | | 0.55 | | | 10 |
| 11 | | 1.25 | | | 0.90 | | | | | | | 0.79 | | | 11 |
| 12 | | 1.58 | | | 0.65 | | | | | | | 0.70 | | | 12 |
| 13 | | 1.72 | | | 0.82 | | | | | | | 0.67 | | | 13 |
| 14 | | 1.57 | | | 0.60 | | | | | | | 0.68 | | | 14 |
| 15 | | 1.92 | | | 0.80 | | | | | | | 0.67 | | | 15 |
| 16 | | 1.54 | | | 0.80 | | | | | | | 0.68 | | | 16 |
| 17 | | 1.72 | | | 0.80 | | | | | | | 0.71 | | | 17 |
| 18 | | 1.99 | | | 0.80 | | | | | | | 0.65 | | | 18 |
| 19 | | 1.78 | | | 0.80 | | | | | | | 0.66 | | | 19 |
| 20 | | 2.74 | | | 0.50 | | | | | | | 0.55 | | | 20 |
| 21 | | 2.63 | | | 0.70 | | | | | | | 0.66 | | | 21 |
| 22 | | 3.21 | | | 0.90 | | | | | | | 0.56 | | | 22 |
| 23 | | 2.24 | | | 1.40 | | | | | | | 0.91 | | | 23 |
| 24 | | 2.11 | | | 0.80 | | | | | | | 0.80 | | | 24 |
| 25 | | 2.22 | | | 0.70 | | | | | | | 0.69 | | | 25 |
| 26 | | 1.83 | | | 0.70 | | | | | | | 0.67 | | | 26 |
| 27 | | 2.29 | | | 0.80 | | | | | | | 0.70 | | | 27 |
| 28 | | 2.02 | | | 1.00 | | | | | | | 0.80 | | | 28 |
| 29 | | 2.03 | | | 1.00 | | | | | | | 0.68 | | | 29 |
| 30 | | 1.79 | | | 0.80 | | | | | | | 0.75 | | | 30 |
| 31 | | 2.12 | | | 1.00 | | | | | | | 0.80 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( FEB 1986 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 1.11 | | | 0.70 | | | | | | | 0.62 | | | 1 |
| 2 | | 1.01 | | | 0.50 | | | | | | | 0.53 | | | 2 |
| 3 | | 1.51 | | | 1.00 | | | | | | | 0.68 | | | 3 |
| 4 | | 2.12 | | | 0.80 | | | | | | | 0.73 | | | 4 |
| 5 | | 2.35 | | | 1.00 | | | | | | | 0.80 | | | 5 |
| 6 | | 2.72 | | | 0.90 | | | | | | | 0.68 | | | 6 |
| 7 | | 3.49 | | | 1.00 | | | | | | | 0.72 | | | 7 |
| 8 | | 2.01 | | | 1.00 | | | | | | | 0.71 | | | 8 |
| 9 | | 2.36 | | | 0.80 | | | | | | | 0.74 | | | 9 |
| 10 | | 2.22 | | | 1.00 | | | | | | | 0.80 | | | 10 |
| 11 | | 1.51 | | | 1.00 | | | | | | | 0.75 | | | 11 |
| 12 | | 2.40 | | | 0.80 | | | | | | | 0.50 | | | 12 |
| 13 | | 2.10 | | | 0.90 | | | | | | | 0.80 | | | 13 |
| 14 | | 1.99 | | | 1.00 | | | | | | | 0.76 | | | 14 |
| 15 | | 1.90 | | | 0.60 | | | | | | | 0.62 | | | 15 |
| 16 | | 2.10 | | | 0.60 | | | | | | | 0.55 | | | 16 |
| 17 | | 2.17 | | | 0.60 | | | | | | | 0.63 | | | 17 |
| 18 | | 2.00 | | | 1.00 | | | | | | | 0.63 | | | 18 |
| 19 | | 1.45 | | | 1.00 | | | | | | | 0.68 | | | 19 |
| 20 | | 2.01 | | | 1.00 | | | | | | | 0.73 | | | 20 |
| 21 | | 1.56 | | | 1.00 | | | | | | | 0.70 | | | 21 |
| 22 | | 1.89 | | | 0.80 | | | | | | | 0.73 | | | 22 |
| 23 | | 2.32 | | | 0.80 | | | | | | | 0.75 | | | 23 |
| 24 | | 2.37 | | | 0.50 | | | | | | | 0.85 | | | 24 |
| 25 | | 2.42 | | | 1.00 | | | | | | | 0.70 | | | 25 |
| 26 | | 1.86 | | | 0.90 | | | | | | | 0.58 | | | 26 |
| 27 | | 3.58 | | | 0.60 | | | | | | | 0.57 | | | 27 |
| 28 | | 2.85 | | | 1.40 | | | | | | | 0.77 | | | 28 |
| 29 | | | | | | | | | | | | | | | 29 |
| 30 | | | | | | | | | | | | | | | 30 |
| 31 | | | | | | | | | | | | | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( MAR 1986 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.07 | | | 1.10 | | | | | | | 0.72 | | | 1 |
| 2 | | 2.08 | | | 1.00 | | | | | | | 0.63 | | | 2 |
| 3 | | 2.58 | | | 0.80 | | | | | | | 0.57 | | | 3 |
| 4 | | 2.39 | | | 0.90 | | | | | | | 0.55 | | | 4 |
| 5 | | 3.61 | | | 0.90 | | | | | | | 0.60 | | | 5 |
| 6 | | 3.12 | | | 0.90 | | | | | | | 0.73 | | | 6 |
| 7 | | 3.45 | | | 0.90 | | | | | | | 0.52 | | | 7 |
| 8 | | 2.62 | | | 1.00 | | | | | | | 0.68 | | | 8 |
| 9 | | 2.10 | | | 1.00 | | | | | | | 0.70 | | | 9 |
| 10 | | 2.04 | | | 1.00 | | | | | | | 0.60 | | | 10 |
| 11 | | 2.79 | | | 0.60 | | | | | | | 0.65 | | | 11 |
| 12 | | 2.70 | | | 1.40 | | | | | | | 0.58 | | | 12 |
| 13 | | 3.30 | | | 0.60 | | | | | | | 0.53 | | | 13 |
| 14 | | 2.80 | | | 0.80 | | | | | | | 0.60 | | | 14 |
| 15 | | 2.90 | | | 0.80 | | | | | | | 0.63 | | | 15 |
| 16 | | 3.60 | | | 0.90 | | | | | | | 0.68 | | | 16 |
| 17 | | 2.80 | | | 1.00 | | | | | | | 0.60 | | | 17 |
| 18 | | 2.70 | | | 1.00 | | | | | | | 0.68 | | | 18 |
| 19 | | 2.80 | | | 1.00 | | | | | | | 0.55 | | | 19 |
| 20 | | 3.00 | | | 1.00 | | | | | | | 0.55 | | | 20 |
| 21 | | 2.90 | | | 1.00 | | | | | | | 0.73 | | | 21 |
| 22 | | 1.82 | | | 0.80 | | | | | | | 0.69 | | | 22 |
| 23 | | 1.77 | | | 0.90 | | | | | | | 0.65 | | | 23 |
| 24 | | 2.26 | | | 0.60 | | | | | | | 0.55 | | | 24 |
| 25 | | 1.71 | | | 1.00 | | | | | | | 0.86 | | | 25 |
| 26 | | 1.74 | | | 0.70 | | | | | | | 0.60 | | | 26 |
| 27 | | 1.92 | | | 0.80 | | | | | | | 0.60 | | | 27 |
| 28 | | 2.10 | | | 0.75 | | | | | | | 0.68 | | | 28 |
| 29 | | 1.75 | | | 0.80 | | | | | | | 0.55 | | | 29 |
| 30 | | 1.91 | | | 1.00 | | | | | | | 0.61 | | | 30 |
| 31 | | 2.55 | | | 0.50 | | | | | | | 0.50 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( APR 1986 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.71 | | | 1.00 | | | | | | | 0.67 | | | 1 |
| 2 | | 2.59 | | | 0.80 | | | | | | | 0.60 | | | 2 |
| 3 | | 2.58 | | | 0.80 | | | | | | | 0.70 | | | 3 |
| 4 | | 1.64 | | | 0.80 | | | | | | | 0.73 | | | 4 |
| 5 | | 2.37 | | | 0.80 | | | | | | | 0.60 | | | 5 |
| 6 | | 1.54 | | | 1.00 | | | | | | | 0.63 | | | 6 |
| 7 | | 3.19 | | | 1.00 | | | | | | | 0.70 | | | 7 |
| 8 | | 2.52 | | | 1.00 | | | | | | | 0.85 | | | 8 |
| 9 | | 2.62 | | | 1.00 | | | | | | | 0.60 | | | 9 |
| 10 | | 2.30 | | | 1.00 | | | | | | | 0.65 | | | 10 |
| 11 | | 2.49 | | | 1.00 | | | | | | | 0.68 | | | 11 |
| 12 | | 2.31 | | | 1.40 | | | | | | | 0.76 | | | 12 |
| 13 | | 2.12 | | | 1.00 | | | | | | | 0.73 | | | 13 |
| 14 | | 2.13 | | | 0.80 | | | | | | | 0.60 | | | 14 |
| 15 | | 3.20 | | | 0.90 | | | | | | | 0.61 | | | 15 |
| 16 | | 2.76 | | | 0.90 | | | | | | | 0.65 | | | 16 |
| 17 | | 2.28 | | | 1.00 | | | | | | | 0.68 | | | 17 |
| 18 | | 2.48 | | | 1.00 | | | | | | | 0.55 | | | 18 |
| 19 | | 2.39 | | | 0.90 | | | | | | | 0.64 | | | 19 |
| 20 | | 3.28 | | | 0.90 | | | | | | | 0.67 | | | 20 |
| 21 | | 2.19 | | | 0.90 | | | | | | | 0.45 | | | 21 |
| 22 | | 1.96 | | | 0.80 | | | | | | | 0.50 | | | 22 |
| 23 | | 1.81 | | | 0.80 | | | | | | | 0.50 | | | 23 |
| 24 | | 2.18 | | | 0.75 | | | | | | | 0.62 | | | 24 |
| 25 | | 2.79 | | | 1.00 | | | | | | | 0.60 | | | 25 |
| 26 | | 2.50 | | | 1.00 | | | | | | | 0.70 | | | 26 |
| 27 | | 2.50 | | | 1.00 | | | | | | | 0.68 | | | 27 |
| 28 | | 2.49 | | | 0.90 | | | | | | | 0.68 | | | 28 |
| 29 | | 2.27 | | | 0.90 | | | | | | | 0.63 | | | 29 |
| 30 | | 2.16 | | | 1.00 | | | | | | | 0.65 | | | 30 |
| 31 | | | | | | | | | | | | | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( MAY 1986 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.48 | | | 1.00 | | | | | | | 0.62 | | | 1 |
| 2 | | 1.41 | | | 0.80 | | | | | | | 0.65 | | | 2 |
| 3 | | 1.94 | | | 0.90 | | | | | | | 0.70 | | | 3 |
| 4 | | 1.71 | | | 1.00 | | | | | | | 0.64 | | | 4 |
| 5 | | 1.09 | | | 1.00 | | | | | | | 0.74 | | | 5 |
| 6 | | 2.31 | | | 1.20 | | | | | | | 0.69 | | | 6 |
| 7 | | 1.92 | | | 0.90 | | | | | | | 0.68 | | | 7 |
| 8 | | 2.36 | | | 1.00 | | | | | | | 0.67 | | | 8 |
| 9 | | 1.87 | | | 1.00 | | | | | | | 0.62 | | | 9 |
| 10 | | 2.03 | | | 1.00 | | | | | | | 0.80 | | | 10 |
| 11 | | 1.85 | | | 1.00 | | | | | | | 0.63 | | | 11 |
| 12 | | 2.46 | | | 1.00 | | | | | | | 0.48 | | | 12 |
| 13 | | 2.52 | | | 1.00 | | | | | | | 0.65 | | | 13 |
| 14 | | 2.42 | | | 1.00 | | | | | | | 0.68 | | | 14 |
| 15 | | 1.54 | | | 1.00 | | | | | | | 0.65 | | | 15 |
| 16 | | 2.10 | | | 1.00 | | | | | | | 0.65 | | | 16 |
| 17 | | 2.69 | | | 1.00 | | | | | | | 0.65 | | | 17 |
| 18 | | 1.87 | | | 1.00 | | | | | | | 0.70 | | | 18 |
| 19 | | 1.86 | | | 1.00 | | | | | | | 0.70 | | | 19 |
| 20 | | 2.15 | | | 1.00 | | | | | | | 0.82 | | | 20 |
| 21 | | 2.09 | | | 1.50 | | | | | | | 0.82 | | | 21 |
| 22 | | 2.02 | | | 1.60 | | | | | | | 0.82 | | | 22 |
| 23 | | 1.64 | | | 1.40 | | | | | | | 0.90 | | | 23 |
| 24 | | 1.27 | | | 1.40 | | | | | | | 0.75 | | | 24 |
| 25 | | 1.43 | | | 1.00 | | | | | | | 0.75 | | | 25 |
| 26 | | 1.62 | | | 0.60 | | | | | | | 0.75 | | | 26 |
| 27 | | 2.39 | | | 0.60 | | | | | | | 0.75 | | | 27 |
| 28 | | 2.02 | | | 1.20 | | | | | | | 0.80 | | | 28 |
| 29 | | 1.79 | | | 1.00 | | | | | | | 0.74 | | | 29 |
| 30 | | 2.07 | | | 1.00 | | | | | | | 0.65 | | | 30 |
| 31 | | 1.94 | | | 1.00 | | | | | | | 0.65 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( JUN 1986 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.21 | | | 1.40 | | | | | | | 0.60 | | | 1 |
| 2 | | 1.84 | | | 1.40 | | | | | | | 0.57 | | | 2 |
| 3 | | 2.16 | | | 1.00 | | | | | | | 0.60 | | | 3 |
| 4 | | 2.34 | | | 1.60 | | | | | | | 0.57 | | | 4 |
| 5 | | 2.81 | | | 1.10 | | | | | | | 0.69 | | | 5 |
| 6 | | 1.51 | | | 1.00 | | | | | | | 0.69 | | | 6 |
| 7 | | 2.23 | | | 1.00 | | | | | | | 0.66 | | | 7 |
| 8 | | 2.34 | | | 1.00 | | | | | | | 0.65 | | | 8 |
| 9 | | 3.07 | | | 1.00 | | | | | | | 0.70 | | | 9 |
| 10 | | 2.26 | | | 1.30 | | | | | | | 0.68 | | | 10 |
| 11 | | 2.82 | | | 1.10 | | | | | | | 0.65 | | | 11 |
| 12 | | 2.83 | | | 1.40 | | | | | | | 0.80 | | | 12 |
| 13 | | 2.97 | | | 1.30 | | | | | | | 0.80 | | | 13 |
| 14 | | 2.54 | | | 1.10 | | | | | | | 0.68 | | | 14 |
| 15 | | 2.70 | | | 1.40 | | | | | | | 0.80 | | | 15 |
| 16 | | 3.04 | | | 1.50 | | | | | | | 0.78 | | | 16 |
| 17 | | 2.50 | | | 1.40 | | | | | | | 0.75 | | | 17 |
| 18 | | 2.32 | | | 1.00 | | | | | | | 0.58 | | | 18 |
| 19 | | 2.56 | | | 1.40 | | | | | | | 0.63 | | | 19 |
| 20 | | 2.85 | | | 1.60 | | | | | | | 0.70 | | | 20 |
| 21 | | 1.99 | | | 1.00 | | | | | | | 0.70 | | | 21 |
| 22 | | 2.69 | | | 1.00 | | | | | | | 0.73 | | | 22 |
| 23 | | 2.26 | | | 1.00 | | | | | | | 0.58 | | | 23 |
| 24 | | 2.28 | | | 0.90 | | | | | | | 0.63 | | | 24 |
| 25 | | 1.99 | | | 0.85 | | | | | | | 0.60 | | | 25 |
| 26 | | 2.13 | | | 1.20 | | | | | | | 0.60 | | | 26 |
| 27 | | 2.05 | | | 1.20 | | | | | | | 0.62 | | | 27 |
| 28 | | 2.41 | | | 1.20 | | | | | | | 0.70 | | | 28 |
| 29 | | 2.15 | | | 1.40 | | | | | | | 0.75 | | | 29 |
| 30 | | 2.91 | | | 1.30 | | | | | | | 0.70 | | | 30 |
| 31 | | | | | | | | | | | | | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( JUL 1986 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.12 | | | 1.60 | | | | | | | 0.86 | | | 1 |
| 2 | | 2.13 | | | 1.40 | | | | | | | 0.77 | | | 2 |
| 3 | | 2.58 | | | 1.60 | | | | | | | 0.82 | | | 3 |
| 4 | | 2.77 | | | 1.40 | | | | | | | 0.85 | | | 4 |
| 5 | | 2.39 | | | 1.60 | | | | | | | 0.90 | | | 5 |
| 6 | | 1.94 | | | 1.10 | | | | | | | 0.80 | | | 6 |
| 7 | | 2.33 | | | 1.40 | | | | | | | 0.75 | | | 7 |
| 8 | | 2.41 | | | 1.10 | | | | | | | 0.72 | | | 8 |
| 9 | | 2.27 | | | 1.10 | | | | | | | 0.67 | | | 9 |
| 10 | | 2.04 | | | 1.40 | | | | | | | 0.74 | | | 10 |
| 11 | | 2.12 | | | 1.30 | | | | | | | 0.60 | | | 11 |
| 12 | | 2.82 | | | 1.00 | | | | | | | 0.72 | | | 12 |
| 13 | | 2.27 | | | 1.00 | | | | | | | 0.74 | | | 13 |
| 14 | | 2.44 | | | 1.00 | | | | | | | 0.60 | | | 14 |
| 15 | | 2.42 | | | 1.10 | | | | | | | 0.57 | | | 15 |
| 16 | | 2.65 | | | 1.20 | | | | | | | 0.67 | | | 16 |
| 17 | | 2.25 | | | 1.20 | | | | | | | 0.67 | | | 17 |
| 18 | | 1.92 | | | 1.20 | | | | | | | 0.75 | | | 18 |
| 19 | | 2.44 | | | 1.10 | | | | | | | 0.72 | | | 19 |
| 20 | | 1.95 | | | 1.20 | | | | | | | 0.70 | | | 20 |
| 21 | | 2.65 | | | 1.20 | | | | | | | 0.67 | | | 21 |
| 22 | | 1.98 | | | 1.20 | | | | | | | 0.67 | | | 22 |
| 23 | | 2.20 | | | 1.30 | | | | | | | 0.70 | | | 23 |
| 24 | | 2.10 | | | 1.10 | | | | | | | 0.70 | | | 24 |
| 25 | | 2.66 | | | 1.50 | | | | | | | 0.75 | | | 25 |
| 26 | | 2.37 | | | 1.20 | | | | | | | 0.75 | | | 26 |
| 27 | | 2.05 | | | 1.10 | | | | | | | 0.75 | | | 27 |
| 28 | | 1.83 | | | 1.40 | | | | | | | 0.66 | | | 28 |
| 29 | | 1.88 | | | 1.60 | | | | | | | 0.69 | | | 29 |
| 30 | | 1.81 | | | 1.60 | | | | | | | 0.70 | | | 30 |
| 31 | | 1.89 | | | 1.60 | | | | | | | 0.86 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( AUG 1986 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 1.45 | | | 1.20 | | | | | | | 0.78 | | | 1 |
| 2 | | 1.94 | | | 1.60 | | | | | | | 0.73 | | | 2 |
| 3 | | 1.98 | | | 1.40 | | | | | | | 0.73 | | | 3 |
| 4 | | 2.41 | | | 1.40 | | | | | | | 0.61 | | | 4 |
| 5 | | 2.06 | | | 1.40 | | | | | | | 0.65 | | | 5 |
| 6 | | 2.26 | | | 1.20 | | | | | | | 0.70 | | | 6 |
| 7 | | 2.23 | | | 1.40 | | | | | | | 0.71 | | | 7 |
| 8 | | 2.26 | | | 1.40 | | | | | | | 0.65 | | | 8 |
| 9 | | 3.10 | | | 1.20 | | | | | | | 0.68 | | | 9 |
| 10 | | 2.78 | | | 1.40 | | | | | | | 0.75 | | | 10 |
| 11 | | 1.76 | | | 1.20 | | | | | | | 0.70 | | | 11 |
| 12 | | 2.21 | | | 1.20 | | | | | | | 0.68 | | | 12 |
| 13 | | 1.56 | | | 1.10 | | | | | | | 0.68 | | | 13 |
| 14 | | 2.02 | | | 1.10 | | | | | | | 0.72 | | | 14 |
| 15 | | 2.23 | | | 1.20 | | | | | | | 0.65 | | | 15 |
| 16 | | 1.86 | | | 1.20 | | | | | | | 0.65 | | | 16 |
| 17 | | 2.57 | | | 1.20 | | | | | | | 0.68 | | | 17 |
| 18 | | 2.03 | | | 1.40 | | | | | | | 0.70 | | | 18 |
| 19 | | 1.85 | | | 1.40 | | | | | | | 0.68 | | | 19 |
| 20 | | 2.14 | | | 1.20 | | | | | | | 0.65 | | | 20 |
| 21 | | 2.16 | | | 1.60 | | | | | | | 0.68 | | | 21 |
| 22 | | 2.34 | | | 1.40 | | | | | | | 0.68 | | | 22 |
| 23 | | 2.80 | | | 1.10 | | | | | | | 0.70 | | | 23 |
| 24 | | 2.69 | | | 1.20 | | | | | | | 0.68 | | | 24 |
| 25 | | 2.28 | | | 1.10 | | | | | | | 0.65 | | | 25 |
| 26 | | 2.48 | | | 1.20 | | | | | | | 0.68 | | | 26 |
| 27 | | 2.57 | | | 1.20 | | | | | | | 0.65 | | | 27 |
| 28 | | 2.37 | | | 1.20 | | | | | | | 0.72 | | | 28 |
| 29 | | 2.25 | | | 1.20 | | | | | | | 0.71 | | | 29 |
| 30 | | 2.15 | | | 1.20 | | | | | | | 0.85 | | | 30 |
| 31 | | 1.97 | | | 1.30 | | | | | | | 0.69 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( SEP 1986 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 1.98 | | | 1.30 | | | | | | | 0.70 | | | 1 |
| 2 | | 1.96 | | | 1.20 | | | | | | | 0.67 | | | 2 |
| 3 | | 1.97 | | | 1.20 | | | | | | | 0.73 | | | 3 |
| 4 | | 2.09 | | | 1.20 | | | | | | | 0.75 | | | 4 |
| 5 | | 2.08 | | | 1.40 | | | | | | | 0.78 | | | 5 |
| 6 | | 1.85 | | | 1.30 | | | | | | | 0.73 | | | 6 |
| 7 | | 1.42 | | | 1.20 | | | | | | | 0.67 | | | 7 |
| 8 | | 2.33 | | | 1.00 | | | | | | | 0.62 | | | 8 |
| 9 | | 2.31 | | | 1.40 | | | | | | | 0.80 | | | 9 |
| 10 | | 2.86 | | | 1.60 | | | | | | | 0.75 | | | 10 |
| 11 | | 2.06 | | | 1.70 | | | | | | | 0.70 | | | 11 |
| 12 | | 2.24 | | | 1.40 | | | | | | | 0.67 | | | 12 |
| 13 | | 1.95 | | | 1.30 | | | | | | | 0.70 | | | 13 |
| 14 | | 2.08 | | | 1.20 | | | | | | | 0.65 | | | 14 |
| 15 | | 1.94 | | | 1.20 | | | | | | | 0.82 | | | 15 |
| 16 | | 1.98 | | | 1.10 | | | | | | | 0.78 | | | 16 |
| 17 | | 1.83 | | | 1.20 | | | | | | | 0.62 | | | 17 |
| 18 | | 1.78 | | | 1.20 | | | | | | | 0.60 | | | 18 |
| 19 | | 1.68 | | | 1.20 | | | | | | | 0.65 | | | 19 |
| 20 | | 2.20 | | | 1.20 | | | | | | | 0.75 | | | 20 |
| 21 | | 1.92 | | | 1.00 | | | | | | | 0.77 | | | 21 |
| 22 | | 2.10 | | | 1.40 | | | | | | | 0.70 | | | 22 |
| 23 | | 1.98 | | | 1.60 | | | | | | | 0.65 | | | 23 |
| 24 | | 1.98 | | | 1.40 | | | | | | | 0.57 | | | 24 |
| 25 | | 2.19 | | | 1.20 | | | | | | | 0.62 | | | 25 |
| 26 | | 2.44 | | | 1.30 | | | | | | | 0.65 | | | 26 |
| 27 | | 2.19 | | | 1.10 | | | | | | | 0.71 | | | 27 |
| 28 | | 1.62 | | | 1.00 | | | | | | | 0.68 | | | 28 |
| 29 | | 2.82 | | | 1.20 | | | | | | | 0.60 | | | 29 |
| 30 | | 2.85 | | | 1.20 | | | | | | | 0.60 | | | 30 |
| 31 | | | | | | | | | | | | | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( OCT 1986 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.24 | | | 1.50 | | | | | | | 0.77 | | | 1 |
| 2 | | 2.34 | | | 1.20 | | | | | | | 0.67 | | | 2 |
| 3 | | 3.08 | | | 1.40 | | | | | | | 0.62 | | | 3 |
| 4 | | 2.96 | | | 1.20 | | | | | | | 0.62 | | | 4 |
| 5 | | 2.56 | | | 1.30 | | | | | | | 0.65 | | | 5 |
| 6 | | 3.71 | | | 1.10 | | | | | | | 0.65 | | | 6 |
| 7 | | 2.97 | | | 1.40 | | | | | | | 0.67 | | | 7 |
| 8 | | 2.88 | | | 1.40 | | | | | | | 0.65 | | | 8 |
| 9 | | 2.67 | | | 1.40 | | | | | | | 0.67 | | | 9 |
| 10 | | 2.04 | | | 1.50 | | | | | | | 0.75 | | | 10 |
| 11 | | 2.01 | | | 1.10 | | | | | | | 0.73 | | | 11 |
| 12 | | 1.99 | | | 1.30 | | | | | | | 0.60 | | | 12 |
| 13 | | 2.67 | | | 1.40 | | | | | | | 0.65 | | | 13 |
| 14 | | 2.94 | | | 1.40 | | | | | | | 0.67 | | | 14 |
| 15 | | 2.62 | | | 1.30 | | | | | | | 0.62 | | | 15 |
| 16 | | 3.08 | | | 1.30 | | | | | | | 0.65 | | | 16 |
| 17 | | 3.30 | | | 1.40 | | | | | | | 0.65 | | | 17 |
| 18 | | 2.85 | | | 1.20 | | | | | | | 0.72 | | | 18 |
| 19 | | 2.70 | | | 1.20 | | | | | | | 0.71 | | | 19 |
| 20 | | 2.30 | | | 1.60 | | | | | | | 0.90 | | | 20 |
| 21 | | 4.02 | | | 1.60 | | | | | | | 0.87 | | | 21 |
| 22 | | 2.92 | | | 1.40 | | | | | | | 0.89 | | | 22 |
| 23 | | 3.71 | | | 2.00 | | | | | | | 1.10 | | | 23 |
| 24 | | 2.50 | | | 1.70 | | | | | | | 1.20 | | | 24 |
| 25 | | 3.09 | | | 1.60 | | | | | | | 0.94 | | | 25 |
| 26 | | 2.38 | | | 1.60 | | | | | | | 0.95 | | | 26 |
| 27 | | 2.82 | | | 1.60 | | | | | | | 0.85 | | | 27 |
| 28 | | 3.01 | | | 1.80 | | | | | | | 0.87 | | | 28 |
| 29 | | 2.64 | | | 1.60 | | | | | | | 0.85 | | | 29 |
| 30 | | 2.70 | | | 1.80 | | | | | | | 0.82 | | | 30 |
| 31 | | 2.34 | | | 1.80 | | | | | | | 0.84 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( NOV 1986 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.42 | | | 1.60 | | | | | | | 0.75 | | | 1 |
| 2 | | 2.41 | | | 1.80 | | | | | | | 0.87 | | | 2 |
| 3 | | 1.79 | | | 1.50 | | | | | | | 0.82 | | | 3 |
| 4 | | 2.74 | | | 1.40 | | | | | | | 0.75 | | | 4 |
| 5 | | 1.86 | | | 2.00 | | | | | | | 0.80 | | | 5 |
| 6 | | 1.42 | | | 1.60 | | | | | | | 0.82 | | | 6 |
| 7 | | 1.82 | | | 1.00 | | | | | | | 0.65 | | | 7 |
| 8 | | 1.91 | | | 1.10 | | | | | | | 0.72 | | | 8 |
| 9 | | 2.37 | | | 1.20 | | | | | | | 0.75 | | | 9 |
| 10 | | 1.87 | | | 1.40 | | | | | | | 0.79 | | | 10 |
| 11 | | 2.40 | | | 1.30 | | | | | | | 0.79 | | | 11 |
| 12 | | 2.62 | | | 1.00 | | | | | | | 0.82 | | | 12 |
| 13 | | 1.79 | | | 1.00 | | | | | | | 0.90 | | | 13 |
| 14 | | 1.64 | | | 1.00 | | | | | | | 0.80 | | | 14 |
| 15 | | 1.51 | | | 1.10 | | | | | | | 0.70 | | | 15 |
| 16 | | 1.68 | | | 1.00 | | | | | | | 0.70 | | | 16 |
| 17 | | 1.97 | | | 1.00 | | | | | | | 0.75 | | | 17 |
| 18 | | 2.55 | | | 1.80 | | | | | | | 0.85 | | | 18 |
| 19 | | 1.83 | | | 1.00 | | | | | | | 0.87 | | | 19 |
| 20 | | 1.90 | | | 1.00 | | | | | | | 0.85 | | | 20 |
| 21 | | 1.65 | | | 1.50 | | | | | | | 0.85 | | | 21 |
| 22 | | 1.86 | | | 1.40 | | | | | | | 0.80 | | | 22 |
| 23 | | 1.60 | | | 1.50 | | | | | | | 0.87 | | | 23 |
| 24 | | 2.15 | | | 1.80 | | | | | | | 0.92 | | | 24 |
| 25 | | 1.62 | | | 2.00 | | | | | | | 1.20 | | | 25 |
| 26 | | 1.30 | | | 1.40 | | | | | | | 0.75 | | | 26 |
| 27 | | 1.58 | | | 1.60 | | | | | | | 0.75 | | | 27 |
| 28 | | 1.67 | | | 1.00 | | | | | | | 0.77 | | | 28 |
| 29 | | 1.92 | | | 1.00 | | | | | | | 0.68 | | | 29 |
| 30 | | 2.16 | | | 1.00 | | | | | | | 0.70 | | | 30 |
| 31 | | | | | | | | | | | | | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 3.1: DISINFECTION PROFILE ( DEC 1986 )

| DATE | PRE-CHLORINATION | | | | | | | POST-CHLORINATION | | | | | | | DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | Cl2 | | NH3 | SO2 | RESIDUAL Cl2 | | | |
| | Dem. | Dos. * | | | Free | Comb. | Total | Dem. | Dos. | | | Free | Comb. | Total | |
| 1 | | 2.36 | | | 1.60 | | | | | | | 1.00 | | | 1 |
| 2 | | 1.48 | | | 1.50 | | | | | | | 1.00 | | | 2 |
| 3 | | 1.56 | | | 1.30 | | | | | | | 0.80 | | | 3 |
| 4 | | 1.30 | | | 1.00 | | | | | | | 0.67 | | | 4 |
| 5 | | 1.34 | | | 1.00 | | | | | | | 0.70 | | | 5 |
| 6 | | 1.56 | | | 1.10 | | | | | | | 0.92 | | | 6 |
| 7 | | 1.77 | | | 1.20 | | | | | | | 0.87 | | | 7 |
| 8 | | 1.46 | | | 1.60 | | | | | | | 0.95 | | | 8 |
| 9 | | 1.51 | | | 1.30 | | | | | | | 0.77 | | | 9 |
| 10 | | 2.12 | | | 0.90 | | | | | | | 0.65 | | | 10 |
| 11 | | 1.94 | | | 1.50 | | | | | | | 0.70 | | | 11 |
| 12 | | 1.96 | | | 1.20 | | | | | | | 0.95 | | | 12 |
| 13 | | 2.23 | | | 1.50 | | | | | | | 0.85 | | | 13 |
| 14 | | 1.88 | | | 1.50 | | | | | | | 0.80 | | | 14 |
| 15 | | 1.89 | | | 1.00 | | | | | | | 0.86 | | | 15 |
| 16 | | 2.25 | | | 1.10 | | | | | | | 0.95 | | | 16 |
| 17 | | 1.98 | | | 1.50 | | | | | | | 1.10 | | | 17 |
| 18 | | 2.29 | | | 1.20 | | | | | | | 0.95 | | | 18 |
| 19 | | 2.66 | | | 1.00 | | | | | | | 0.85 | | | 19 |
| 20 | | 2.14 | | | 1.10 | | | | | | | 0.72 | | | 20 |
| 21 | | 2.18 | | | 1.20 | | | | | | | 0.74 | | | 21 |
| 22 | | 2.28 | | | 1.30 | | | | | | | 0.97 | | | 22 |
| 23 | | 2.14 | | | 1.40 | | | | | | | 1.00 | | | 23 |
| 24 | | 1.77 | | | 1.20 | | | | | | | 0.80 | | | 24 |
| 25 | | 2.10 | | | 1.20 | | | | | | | 0.77 | | | 25 |
| 26 | | 1.97 | | | 1.20 | | | | | | | 0.72 | | | 26 |
| 27 | | 2.00 | | | 1.40 | | | | | | | 0.87 | | | 27 |
| 28 | | 1.92 | | | 1.60 | | | | | | | 0.84 | | | 28 |
| 29 | | 1.84 | | | 1.60 | | | | | | | 0.82 | | | 29 |
| 30 | | 2.10 | | | 1.50 | | | | | | | 0.77 | | | 30 |
| 31 | | 2.07 | | | 1.60 | | | | | | | 0.74 | | | 31 |

* Chlorine dosage is combined pre- and post-chlorination.

TABLE 4.0: T&O CONTROL ALKALINITY ADJ. &
FLUORIDATION SUMMARY

NO DATA AVAILABLE

TABLE 4.1: T&O CONTROL, ALKALINITY ADJ. &
FLUORIDATION PROFILE

NO DATA AVAILABLE

TABLE 5.0: WPOS WATER QUALITY
(4 YEAR SUMMARY)

INSUFFICIENT DATA AVAILABLE AT PLANT

TABLE 6.0: ALGAE COUNT

NO DATA AVAILABLE

TABLE 7.0: BACTERIOLOGICAL TESTING 1984

| | | TOTAL COLI | | | | FECAL COLI | | | | FECAL STREP | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | A | E | F | G | A | H | I | J |
| JAN | R | | 7 | 1 | | | 8 | | | | 3 | 1 | |
| | T | 8 | | | | 4 | | | | | | | |
| FEB | R | | 2 | 6 | | | 4 | 3 | | | 2 | | 2 |
| | T | 8 | | | | 4 | | | | | | | |
| MAR | R | | 1 | 7 | | | 4 | 4 | | | 1 | 2 | 1 |
| | T | 8 | | | | 4 | | | | | | | |
| APR | R | | 7 | 1 | | | 6 | 2 | | | 1 | 3 | |
| | T | 8 | | | | 4 | | | | | | | |
| MAY | R | | 8 | 2 | | | 8 | 2 | | | 4 | | 1 |
| | T | 10 | | | | 5 | | | | | | | |
| JUN | R | | 4 | 4 | | | 7 | 1 | | | 1 | 3 | |
| | T | 8 | | | | 4 | | | | | | | |
| JUL | R | | 8 | 2 | | | 9 | 1 | | | 2 | 3 | |
| | T | 9 | | | | 5 | | | | | | | |
| AUG | R | | 7 | 1 | | | 3 | 5 | | | 2 | 2 | |
| | T | 8 | | | | 4 | | | | | | | |
| SEP | R | | 5 | 3 | | | | 8 | | | | 3 | 1 |
| | T | 8 | | | | 4 | | | | | | | |
| OCT | R | | 5 | 5 | | | | 10 | | | | 3 | 2 |
| | T | 10 | | | | 5 | | | | | | | |
| NOV | R | | 4 | 4 | | | 3 | 5 | | | | 2 | 2 |
| | T | 8 | | | | 4 | | | | | | | |
| DEC | R | | 4 | 2 | | | 2 | 4 | | | 1 | 1 | 1 |
| | T | 6 | | | | 3 | | | | | | | |

ALL RESULTS ARE FOR 100mL SAMPLES; TESTS CARRIED OUT AT MOE LAB, LONDON AND WINDSOR MOH LAB.

A = ABSENT
B = 1-100
C = 101-5000
D = >5000
E = 0-10
F = 11-500
G = >500
H = 0-1
I = 2-50
J = >50

TABLE 7.0: BACTERIOLOGICAL TESTING 1985

| | | TOTAL COLI | | | | FECAL COLI | | | | FECAL STREP | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | A | E | F | G | A | H | I | J |
| JAN | R | | 4 | 4 | | | 6 | 2 | | | | 2 | 2 |
| | T | 8 | | | | 4 | | | | | | | |
| FEB | R | | 6 | 2 | | | 6 | 2 | | | 3 | | 1 |
| | T | 8 | | | | 4 | | | | | | | |
| MAR | R | | 3 | 5 | | | 2 | 6 | | | | 2 | 2 |
| | T | 8 | | | | 4 | | | | | | | |
| APR | R | | 6 | 3 | 1 | | 6 | 4 | | | 3 | | 2 |
| | T | 10 | | | | 5 | | | | | | | |
| MAY | R | | 7 | | | | 7 | | | | 3 | 2 | |
| | T | 7 | | | | 3 | | | | | | | |
| JUN | R | | 8 | | | | 8 | | | | 3 | 1 | |
| | T | 8 | | | | 4 | | | | | | | |
| JUL | R | | 4 | 4 | | | 7 | 2 | | | 2 | 4 | |
| | T | 10 | | | | 5 | | | | | | | |
| AUG | R | | 5 | 1 | | | 4 | 2 | 1 | | 1 | 2 | 1 |
| | T | 8 | | | | 4 | | | | | | | |
| SEP | R | | 3 | 3 | | | | 4 | | | 2 | 3 | |
| | T | 10 | | | | 5 | | | | | | | |
| OCT | R | | 1 | 3 | | | | 4 | | | | 4 | |
| | T | 8 | | | | 4 | | | | | | | |
| NOV | R | | 3 | 1 | | | | 8 | | | | 1 | 3 |
| | T | 8 | | | | 4 | | | | | | | |
| DEC | R | | 1 | 2 | | | | 6 | | | | 1 | 2 |
| | T | 6 | | | | 3 | | | | | | | |

ALL RESULTS ARE FOR 100mL SAMPLES; TESTS CARRIED OUT AT MOE LAB, LONDON AND WINDSOR MOH LAB.

A = ABSENT
B = 1-100
C = 101-5000
D = >5000
E = 0-10
F = 11-500
G = >500
H = 0-1
I = 2-50
J = >50

TABLE 7.0: BACTERIOLOGICAL TESTING 1986

| | | TOTAL COLI | | | | FECAL COLI | | | | FECAL STREP | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | C | D | A | E | F | G | A | H | I | J |
| JAN | R | | 2 | 1 | 1 | | 2 | 6 | | | 2 | | 2 |
| | T | 7 | 1 | | | 4 | 1 | | | | | | |
| FEB | R | | 2 | 2 | | | 2 | 6 | | | 1 | 2 | 1 |
| | T | 8 | | | | 4 | | | | | | | |
| MAR | R | | 1 | 4 | | | 1 | 8 | | | | | |
| | T | 9 | | | | 5 | | | | | | | |
| APR | R | | 3 | 1 | | | 4 | 4 | | | 3 | 1 | |
| | T | 8 | | | | 4 | | | | | | | |
| MAY | R | | 2 | 2 | | | 2 | 6 | | | 1 | 2 | 1 |
| | T | 8 | | | | 4 | | | | | | | |
| JUN | R | | 1 | 2 | 1 | | 2 | 6 | | | | 3 | 1 |
| | T | 8 | | | | 4 | | | | | | | |
| JUL | R | | 3 | 1 | 1 | | 1 | 9 | | | | 4 | 1 |
| | T | 10 | | | | 5 | | | | | | | |
| AUG | R | | 3 | 1 | | | 2 | 5 | | | | 4 | |
| | T | 8 | | | | 4 | | | | | | | |
| SEP | R | | 2 | 3 | | | | 9 | 1 | | | 2 | 3 |
| | T | 10 | | | | 5 | | | | | | | |
| OCT | R | | | 3 | 1 | | 1 | 5 | 2 | | | 1 | 3 |
| | T | 8 | | | | 4 | | | | | | | |
| NOV | R | | 3 | 1 | | | 3 | 5 | | | | 4 | |
| | T | 8 | | | | 4 | | | | | | | |
| DEC | R | | | 3 | | | | 1 | 5 | | | | 3 |
| | T | 6 | | | | 3 | | | | | | | |

ALL RESULTS ARE FOR 100mL SAMPLES; TESTS CARRIED OUT AT MOE LAB, LONDON AND WINDSOR MOH LAB.

A = ABSENT
B = 1-100
C = 101-5000
D = >5000
E = 0-10
F = 11-500
G = >500
H = 0-1
I = 2-50
J = >50

WATER PLANT OPTIMIZATION STUDY
BELLE RIVER WATER SYSTEM

TABLE 8.0: ALERT LEVELS (DISTRIBUTION SYSTEM)

| DATE | PARAMETER | MEASURED PARAMETER | GUIDELINE LIMIT |
|---|---|---|---|

No data available.

WATER PLANT OPTIMIZATION STUDY
BELLE RIVER WATER SYSTEM

TABLE 8.1: ALERT LEVELS (TREATED WATER AT PLANT)

| DATE | PARAMETER | MEASURED PARAMETER | GUIDELINE LIMIT |
|---|---|---|---|

No data available.

# APPENDIX D
# TERMS OF REFERENCE

## Purpose

To review the present conditions and determine an optimum treatment strategy for contaminant removal at the plant, with emphasis on particulate materials and disinfection processes.

## Work Tasks

1. Receive an information package from the MOE. Review the information provided and meet with the MOE staff, if required, to discuss the project.

2. Document the quality and quantity of raw and treated waters.

3. Define the present treatment processes and operating procedures. Prepare a progress report on Works Tasks 1-3 for the Project Committee.

4. Assess the methods of efficient particulate removal which would utilize the present major capital works of the plant. Evaluate the particulate removal efficiency and sensitivity of operation, assuming optimum performance of the plant.

5. Assess current disinfection practices and possible improvement methods.

6. Describe possible short and long-term process modifications to obtain optimum disinfection and contaminant removal.

7. Prepare a draft report for the project committee's review.

8. Prepare the final report.

1. RECEIVE AN INFORMATION PACKAGE FROM THE MOE. REVIEW THE INFORMATION PROVIDED AND MEET WITH THE MOE STAFF, IF REQUIRED, TO DISCUSS THE PROJECT.

Elements of Work

(a) Receive an information package from the MOE concerning the plant and the study. This package includes a general terms of reference, a general table of contents for organizing the study in a manner consistent with other plant reports, the WPOS reporting tables and a copy of Ontario Drinking Water Objectives.

(b) Review the information and prepare for a meeting to initiate the work on the project, including preparation of a schedule of manpower and staff committments.

(c) Meet with the MOE to discuss the available data, the terms of reference, and the project staff and work schedule. If a consultant is carrying out more that one study it may not be necessary to meet with the MOE at the start of each study.

## 2. DOCUMENT THE QUALITY AND QUANTITY OF RAW AND TREATED WATERS.

Elements of Work

(a) Prepare a monthly summary of maximum, minimum, and average flows for the last three consecutive years (Table 1.0). Address any discrepancies which exist between raw and treated flow rates.

(b) Based on the above, briefly review and tabulate for the last three years, the monthly maximum, minimum, and average per capita flow for the total population served by the plant (Table 1.1). Compare the plant data with typical per capita flows for the local region. Indicate major consumers who may influence the figures.

(c) Document the methods of measuring the raw and treated water flow rates.

(d) Summarize, for the last three consecutive years, where available, the raw and treated water; turbidity, colour, residual aluminum/ iron, pH, temperature and treatment chemical dosages (other than disinfection and fluoridation). The summary should indicate the monthly daily average and maximum and minimum day (Table 2.0).

For the same three year period, tabulate also the daily average for the typical seasonal months of January, April, July and October as well as other months in which problems with particulate removal occurred (Tables 2). Document enough data to define and evaluate those problems.

Record other data, such as particulate counting, suspended solids, and algae counting (Table 5.0) which could reflect on particulate removal efficiency.

Document the source and methods used in determining all information.

A comparison should be made between the plant and outside laboratory information to ascertain the relative validity of the data. For plant data, emphasis should be given to plant laboratory tests rather than continuous process control instruments.

(e) Summarize for the last three consecutive years, where available, the disinfectant demand, dosages (including all disinfection related chemicals and residuals) for all application points as well as fluoridation dosage and residual. The summary should indicate the monthly daily average and maximum and minimum day (Table 3.0).

For the same three year period, tabulate (Tables 3) the daily average for the typical seasonal months of January, April, July and October as well as other months in which problems with chlorine residuals and/or positive bacterial tests identified in Table 6. Document enough data to define and evaluate those problems.

Document the methods of dosage evaluation and residual measurements, and establish the validity of the data provided.

(f) Prepare a summary, based on at least three years of data, of the raw and treated water quality testing data for physical, microbiological, radiological, and chemical water quality information (Table 4). Document as much data as is needed to show possible seasonal trends in water quality. Where possible, show corresponding sets of raw and treated water quality information.

Document the source and methods used in determining all water quality information and establish the validity of the data, comparing plant and outside laboratory data.

(g) Tabulate, for the last three consecutive years, the raw and treated water bacterial test information at the plant (Table 6).

Document the source and methods used for all data provided.

(h) Document the water sampling systems (source, pump, line-material and size, vertical rise velocity sampling location) used in the plant (similar to DWSP Questionnaire in Appendix A).

(i) Prepare a summary of inplant testing including Test, Sampling Point, Testing Frequency, Reporting Frequency, Testing Instrumentation including calibration.

(j) Identify other water quality concerns, not related to particulate removal or disinfection, which should be considered as part of the assessment phase of this evaluation program.

3. DEFINE THE PRESENT TREATMENT PROCESSES AND OPERATING PROCEDURES. PREPARE A PROGRESS REPORT ON WORK TASKS 1-3 (8 COPIES), FOR THE PROJECT COMMITTEE.

Elements of Work

(a) Where drawings are available, assemble sufficient record drawings of a reduced size, to document the general site layout and the interrelationship of major plant components. If available, include a process and piping diagram (PAPD) of the plant operations.

(b) Prepare a simplified block schematic of all major plant components including chemical systems and indicating design parameters. Appendix B is an example of the required standard schematic.

(c) Prepare a photographic record of the plant facilities, illustrating all of the major plant components and chemical feed systems. The record should include approximately 30-40 coloured (9 cm x 12 cm) (or 10 cm x 15 cm) prints, suitably labelled. The progress and draft reports may include photocopies in lieu of the prints.

(d) Tabulate the design parameters for all the major plant components, with emphasis on the process operations, including chemical feeds. This information, as a minimum, must be consistent with the DWSP Questionnaire (Appendix A) and must be confirmed and verified by field observations. The design parameters should be evaluated at design, rated and actual operational flows.

(e) Prepare a summary of how the plant is operated, including chemical dosage control, such as jar testing information, filter backwashing procedures and initiation, and pumping and flow control.

(f) Document all reported and other apparent problems in plant operations and/or in the distribution system related to water quality. In addition list the health related parameters which exceed the Ontario Drinking Water Objectives (Table 7).

(g) Submit 8 copies of the progress report to the Prime Consultant for distribution to the Project Committee.

4. ASSESS THE METHODS OF EFFICIENT PARTICULATE REMOVAL WHICH WOULD UTILIZE THE PRESENT MAJOR CAPITAL WORKS OF THE PLANT. EVALUATE THE PARTICULATE REMOVAL EFFICIENCY AND SENSITIVITY OF OPERATION, ASSUMING OPTIMUM PERFORMANCE OF THE PLANT.

Elements of Work

(a) Assess the validity and implication of all information relating to particulate removal provided in Work Tasks 1 and 2 with emphasis on method, metering and sampling, etc.

(b) Using information provided in Work Tasks 1, 2 and 3 evaluate the plant's particulate removal efficiency. The basis of minimum particulate removal should be 1.0 F.t.u. It should, however, be recognized that it is desirable to strive for an operational level which is as low as is achievable.

(c) Conduct an evaluation of possible optimum performance alternatives. Include jar testing using established industry practice.

(d) Evaluate the feasibility of optimum removal using the existing plant capital works. This evaluation should consider the worst case water quality conditions, even though field testing data may not be available during the initial phase of the study (see Work Task 7).

(e) Describe the operational procedures, management strategies, and equipment required for various feasible alternatives. Estimate chemical dosages, level of operational expertise, and sensitivity of operation of the alternatives.

5. ASSESS CURRENT DISINFECTION PRACTICES AND POSSIBLE IMPROVEMENT METHODS.

Elements of Work

(a) Assess the validity and implication of all information relating to disinfection provided in Work Tasks 1, 2 and 3 with emphasis on method, metering and sampling etc.

(b) Using the information provided in Work Tasks 1, 2 and 3 evaluate the plant's ability to disinfect the water. The basis of minimum disinfection should be to ensure a water quality as described in the Ontario Drinking Water Objectives.

(c) Conduct an evaluation of possible optimum disinfection procedures for the plant, with consideration also given to the reduction of chlorinated by-products in the treated water.

(d) Evaluate the feasibility of the various alternatives using the existing plant capital works.

(e) Assess the relative merits of the alternatives. Describe the operational procedures, management strategies, and equipment required for the feasible alternatives. Estimate chemical dosages, level of operational expertise, and sensitivity of operation for the alternatives.

6. DESCRIBE POSSIBLE SHORT AND LONG-TERM PROCESS MODIFICATIONS TO OBTAIN OPTIMUM DISINFECTION AND CONTAMINANT REMOVAL.

Elements of Work

(a) Prepare a list of modifications which should be considered for detailed implementation evaluation. Provide an estimated cost and possible schedule for implementation for each of the proposed modifications.

It is not the purpose of this study to provide a detailed implementation scheme for plant rehabilitation. It is, however, necessary to scope the feasible short and long-term process modifications required to achieve optimum disinfection and contaminant removals.

(b) Incorporate (a) above in the draft report.

7. PREPARE A DRAFT REPORT FOR THE PROJECT COMMITTEE'S REVIEW. (8 COPIES).

Elements of Work

(a) The report must include all information for Work Tasks 1-6.

The information must be organized and presented in a logical and co-ordinated fashion. A general table of contents (Appendix C) is provided for organizing the material in a manner consistent with other plant reports.

Submit the draft report for review by the Project Committee.

(b) Meet with the Project Committee on site at least one week after submission of the report.

(c) Prepare a separate letter report containing recommendation(s) concerning the need for additional field testing to cover quality conditions not available during the period of this study. The Project Committee may decide to delay completion of the final report until field data can be obtained to confirm the predictions of performance for the worst case water conditions.

8. PREPARE THE FINAL REPORT.

Elements of Work

(a) Conduct additional field testing if required. Discuss the implementations of the results with the Project Committee if the results differ from the predicted performance.

(b) Amend the report as per review comments, incorporating additional field data if required.

(c) Submit 25 copies of the final reports (including the colour photographs) to the MOE for distribution.